SIAST Retention Study

Factors Affecting Retention of First-Year Certificate and Diploma Students

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Executive Summary

A two part study was undertaken to identify what factors impact on student persistence in order to develop policies to support those students most at risk of becoming non-completers.

- Non-completers are more likely to be disabled; of aboriginal ancestry, married, females with dependent children. They are more frequently employed and work more hours. They are also generally older; proportionately twice as many non-completers are over 35 years old.

- Tutorial help, counselling, computer and library facilities were more frequently used by non-completers.

- Non-completers stated more often that sessions to improve study skills, tutorial sessions and instructor office hours have an impact on program completion.

- Non-completers are less certain about career choices, expressed less goal commitment and had set themselves lower final educational goals.

- Previous educational achievement was lower for non-completers.

- Non-completers were more influenced by the current economic conditions.

In addition to the above factors, attrition rates also show a strong positive correlation with employment rates in particular occupational sectors. If it is relatively easy to find employment, students are more likely to leave before completing their program. If graduates have greater difficulty in securing full-time employment, students were more likely to persist in order to gain the extra little edge in the employment market.

- Previous withdrawal rates from a post-secondary institution were not significantly different for non-completers.

- Those respondents who had ever withdrawn or transferred from another educational institution stated "changed career plans" and "wanted practical experience" as the primary reasons for leaving.

- Instructors are a major strength of SIAST. Highest levels of satisfaction (from a list of factors) were with class size and accessibility of instructors.

- 40 percent of first year Certificate/Diploma students are 20 years old or younger, and another 26.4 percent are between 21 - 24 years of age.

- 22.9 percent of first year Certificate/Diploma students are sequential, that is continuing right after high school. (At Palliser almost 41 percent of first year students are sequential.)

- 18 percent indicated a four year University degree as their highest educational goal and an additional 11 percent want to do graduate studies.

- 22.2 percent of first year Certificate/Diploma students have previously attended university (2.9 percent have completed a degree).

- 9 percent of first year Certificate/Diploma students have completed an Adult Basic Education program.

- 76.4 percent of all respondents are single.
- 21.8 percent of all first year Certificate/Diploma students have dependent children.
- 46.3 percent are male; 53.7 percent are female.
- 6.2 percent indicated that they are of aboriginal ancestry.
- 4.9 percent identified themselves as being disabled.
- 93.7 percent are satisfied or very satisfied with their experience at SIAST.

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SIAST Retention Study

Factors Affecting Retention of First-Year Certificate/Diploma Students

1.0 Introduction

Student attrition has been the focus of investigation for many years. Some have argued that student completion rates are a fundamental measurement of student success (or the institution's success in meeting the needs of its students). However, in recent years the validity of assuming that attrition suggests somehow failure has been questioned, and it is now more the concern for the waste of human and financial resources that have fuelled the interest in investigating why some students exit their program of study. Researchers found it more useful to study the reasons why post-secondary students drop out and what factors may impact on persistence so that the institution can develop specific policies and practices to enhance student retention.

1.1 Background

The Saskatchewan Institute of Applied Science and Technology (SIAST) is a provincial technical institute located at the four major cities in the province of Saskatchewan. It was formed in 1987 through an amalgamation of four urban community colleges, four provincial technical institutes, and an Advanced Technology Training Centre and it is governed by a Board. Prior to the amalgamation, the various institutions came under the jurisdiction of the Department of Education. Minimal data was kept on student retention. It became apparent that there was a need to know the retention rates at the four institutes and in specific programs.

Planning and Research Services of SIAST undertook to develop a model to elaborate the various criteria that affect retention, such as goal commitment, student characteristics, educational ability, academic integration, social integration and labour market conditions. Where the SIAST study differs from the numerous other studies on retention is that the SIAST study also considers retention as a function of fluctuations in economic conditions. Employment in certain occupations is more strongly affected by cycles in the economy and this may impinge on student persistence.

1.2 Objectives

The objectives of the SIAST Retention Study are:

- to determine the factors that impact on student retention.
- to identify student populations facing higher risk of non-completion.
- to determine the impact of economic fluctuations on the retention of students.

1.3 Applications

By analyzing the data from the survey responses, we can identify the factors impinging on student retention over which the institution has some control. Once identified, SIAST can then develop policies to support those students most at risk of becoming non-completers.

2.0 Methodology

Primary research was undertaken by surveying all first year students enrolled in diploma and certificate programs in two stages. Certificate students normally complete their program in one year, whereas diploma students normally follow a two year program. For Part I, a questionnaire was mailed in October, 1991 to all first year certificate/diploma (C/D) students enrolled as of September 30, 1991 (the list of addresses for 2,822 students was supplied by the respective Registrars from the four institutes). 1,557 completed questionnaires (or 55 percent of the census sample) were received and analyzed for Part I. For Part II, a follow-up questionnaire was sent in June, 1992 to the respondents of the first questionnaire. At that time, most programs would have completed the first year of studies. 720 completed questionnaires were received for Part II, a response rate of 47 percent. 105 respondents identified themselves as non-completers, an attrition rate of 14.5 percent of Part II respondents. The analysis compared the responses of these non-completers to the responses of the general sample (n = 1,557) to determine significant differences.

3.0 Literature Search

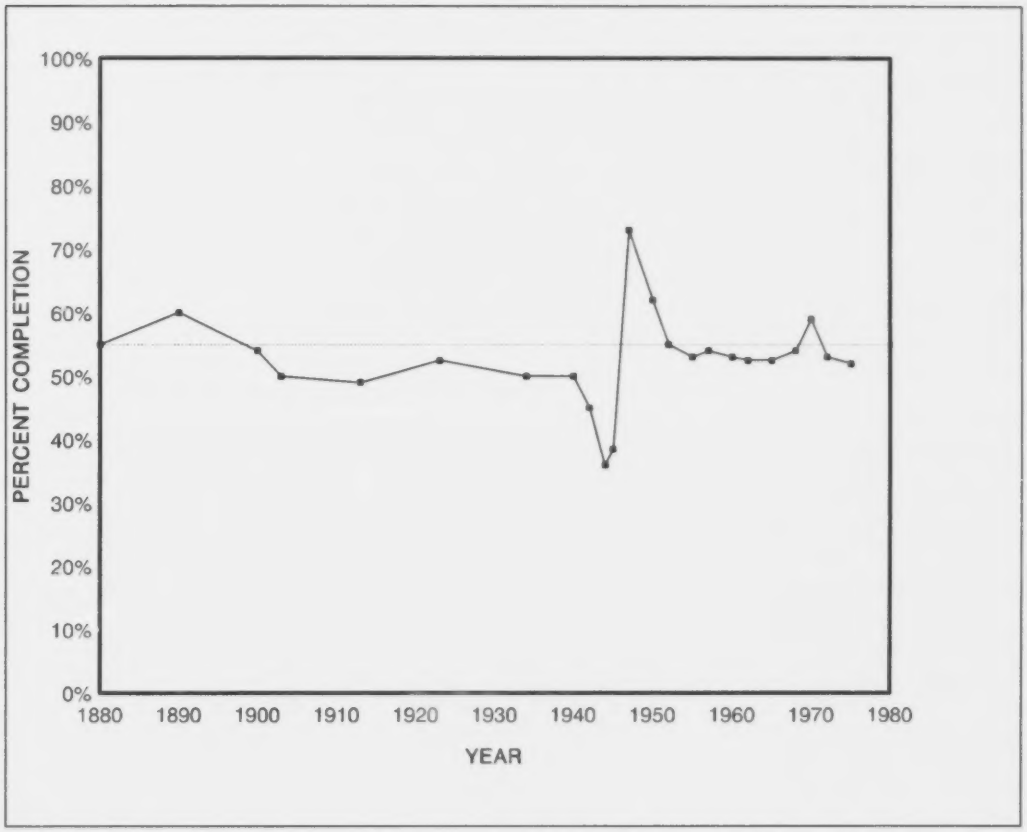
An extensive literature search on the topic of student retention and student attrition was conducted prior to undertaking this study. The studies and articles that have been examined as secondary data sources are enumerated in the list of references.

3.1 Long Term Attrition Rates

In a 1982 article by Tinto, whose work on attrition has influenced thinking in higher education regarding student attrition since his first study in 1975, aggregate attrition rates in America have remained surprisingly constant over the past 100 years. (See Figure 1.)

With the exception of the period during and immediately following World War II, dropout rates have remained at about 45 percent. After an understandable decline in completion rates during the war, a large number of veterans took advantage of the GI Bill to re-enter higher education after the war. Degree completion rates were calculated by the ratio of the number of BAs or first professional degrees given in any one year to the number of first-time degree enrollments four years earlier.

Figure 1 **BA Completion Rates in Higher Education 1880 - 1980 with Estimated Regression Line**



Source: Vincent Tinto, "Limits of Theory and Practice in Student Attrition", Journal of Higher Education, 1982, Vol. 53. No.6. page 694. Ohio State University. 1982.

Similar figures have been reported for non-degree granting post-secondary institutions. An analysis of withdrawal from the Colleges of Applied Arts and Technology of Ontario (CAATs) between 1974 and 1979 found **total student withdrawal rates from 44.1 to 47.1 percent**[1].

[1] Stoll, R. and E. Scarff. Student Attrition from Post-secondary Programs at the Ontario Colleges of Applied Arts and Technology. Toronto, Ontario; Ministry of Colleges and Universities, Special Projects Office, 1983.

3.2 Summary of Literature Search

Past studies can be categorized as falling roughly into one of five categories, depending on the emphasis they give to individual and environmental forces:

psychological
societal
economic
organizational
interactional

Psychological Theories on Student Persistence focus on individual personality traits, which distinguish those students who persist from those who do not complete their program of study. Retention is viewed as being dependent upon the individual's ability to complete successfully the requirements of the institution.

Societal Theories stress the roles of social status, race, prestige, and opportunity relative to student persistence, or they examine the barriers and hurdles that students have to overcome. External forces are stressed in the process of student retention.

Economic Theories of student departure emphasize the importance of individual finances and financial aid in student retention. There is little evidence to support the contention that financial forces are paramount to individual retention decisions. The financial situation was taken into account in the decision regarding entry, that is where and whether to attend in the first place[2]. When students' experiences are positive, they are more likely to accept greater financial burdens in order to continue their attendance[3].

Organizational Theories stress the impact of such variables as size of institution, student/teacher ratios, institutional goals and organizational structure on student departure rates. These factors appear to be more important in residential degree-granting institutions. Interactional Theories look at the fit between what a student expects from an institution and how well he/she integrates into the social and academic environment. Tinto's 1975 study is the major work in this area. Pascarella and Chapman in a 1983 study found that academic integration had an effect on institutional commitment for both four-year and two-year commuter post-secondary institutions, but social integration had no effect on persistence. Voorhees studied the social integration model on community colleges. He suggested that academic integration may be less important in explaining persistence of community college students compared to four-year University students. Women had higher levels of persistence. Students indicating that their purpose for attending was "self-improvement or "other" had the lowest persistence rates[4].

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[2] Manski, C.F. and D.A. Wise. College Choice in America. Cambridge Harvard University Press, 1983.

[3] Tinto, Vincent. "Limits of Theory and Practice in Student Attrition." Journal of Higher Education, 1982, Vol. 53, No. 6, pp. 687 - 699; and Collins, Turner, and Maquire, 1979.

[4] Voorhees, R.A. "Towards Building Models of Community College Persistence: A Logit Analysis." Research in Higher Education. Vol. 26, 1987, 115-129.

Until recently most research has focused on traditional full-time students participating in four-year degree program studies. Part-time students, two-year college/institute and continuing education students, who are generally older have received relatively little attention. Older students probably leave higher education for reasons far different from those identified in Tinto's model of student attrition. For example, social integration, important in Tinto's model, appears to have little empirical support as a reason for explaining non-traditional college attrition[5].

Since goal commitment is an important variable in many studies, we must first examine what this goal is for non-traditional students[6].

It has long been assumed that "completion of the program of studies undertaken" **should** be the goal of the student; however, in effect, especially the older student may have a different goal. Students who do not intend to finish a certificate or diploma when entering a program should not necessarily be considered as having dropped out. The students' goal may be "to be able to find employment", when they do, hence when the goal is achieved, they leave the program. We should therefore re-evaluate our definition of "attrition". The word carries many negative connotations and suggests failure, when in effect students have achieved what they set out to achieve. We examined the goals or reasons for entering a post-secondary program in our study and found that completion was not always the most important goal.

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[5] Metzner, Barbara and John P. Bean. "The Estimation of a Conceptual Model for Non-traditional Under-graduate Student Attrition." Research in Higher Education. Vol. 27(1), 1987, p. 15-38.

Pascarella, Duby and Iverson. "A Test and Reconceptualization of a Theoretical Model of College Withdrawal." American Educational Research Journal. 20, 1983, p. 87-102.

[6] The non-traditional student was defined as older than 24 and/or a commuter and/or part-time (Metzner and Bean, 1987, p.18). Many of SIAST's students would be considered non-traditional under this definition.

4.0 Results of the Study

We examined a number of factors that are often identified with student persistence. The SIAST study set out to validate these factors as influencing retention for our own group of first year students at SIAST. We added another factor "labour market condition" to the list.

The SIAST Retention Study set out to examine the impact of the following factors on persistence:

1. reasons for taking program
2. goal commitment
3. educational ability
4. academic/social integration
5. satisfaction/use of services
6. student characteristics
7. labour market conditions

4.1 Differences Between Completers and Non-Completers

The responses of those who had identified themselves as non-completers in Part II were tagged in the database of Part I and then compared to the overall respondents for significant differences. We found that non-completers differed on all of the above factors with the exception of #4 academic/social integration.

4.1.1 Reasons for Taking Program

Working conditions and personal interest/aptitude are more important to non-completers in determining career choices. Acquiring skills to change careers was a stronger motivating factor for non-completers. Non-completers had lower educational goals.

4.1.2 Goal Commitment

Non-completers are less certain about their career choices, expressed less goal commitment, and had set themselves lower final educational goals. Twice as many non-completers stated two months after enrollment that they would definitely take a job right now rather than finish the program, if they were offered a job requiring their skills.

4.1.3 Educational Ability

Previous educational achievement was lower for non-completers. Three times as many respondents from the total sample said that their high school grades were "excellent - over 80%" compared to non-completers.

4.1.4. Academic/Social Integration

There was no significant difference between non-completers and the total sample in terms of social and/or academic integration, measured by the participation in various activities and groups relating to these areas.

4.1.5 Satisfaction/Use of Services

Tutorial help, counselling, and computer and library facilities were more frequently used by non-completers. Sessions to improve study skills, tutorial sessions, and instructor office hours are perceived by non-completers to have greater impact on program completion.

4.1.6 Student Characteristics

Non-completers are more likely to be disabled, of aboriginal ancestry, female, married, have dependent children. They are more frequently employed and work more hours. Non-completers are generally older; proportionately twice as many non-completers are over 35 years old.

The percentage of unemployed prior to entering SIAST was twice as high for non-completers. For non-completers family responsibilities were significantly more important reasons for transfer or withdrawal from previously attempted post-secondary programs.

4.1.7 Labour Market Conditions

Non-completers were more influenced by the current economic conditions. A higher percentage of non-completers stated that they would accept a job in preference of completing their program depending on future job prospects and the state of the economy. The preference for taking a job over completing the program may be a reflection of the fact that the percentage of unemployed prior to entering SIAST was twice as high for non-completers, they may therefore be more eager to become employed.

Unemployment rates for various sectors were compared to attrition rates for programs preparing for occupations in that sector. The general conclusion (although it could not be proven for all programs) was that if it is relatively easy to find employment, students are less likely to complete the program other factors held constant.

4.2 Detailed Study Results

4.2.1 Response Rates

According to the Registrars' offices, a total of 2,822 first year Certificate and Diploma students were registered as of September 31, 1991. Part I of the survey was mailed out in December, 1991 and 1,557 completed surveys were received. An overall response rate of over 55 percent was achieved for Part I and a response rate of 46 percent was achieved for Part II (questionnaire mailed in June 1992). A breakdown of response rates by campus is listed below.

Table 1
Response Rates

	Total	Kelsey		Palliser		Wascana		Woodland	
Part I	#	#	%	#	%	#	%	#	%
Questionnaires sent	2,822	1,078	38.2%	704	24.9%	742	26.3%	298	10.5%
Completed questionnaires received	1,557	580	37.0%	369	23.7%	456	29.3%	152	10.0%
Response Rate	55.2%		53.8%		52.4%		61.5%		51.0%
Part II									
Questionnaires sent	1,557	580		369		456		152	
Completed questionnaires received	720	285	39.5%	175	24.3%	207	28.8%	53	7.4%
Response Rate	46.2%		49.0%		47.4%		45.4%		34.9%
Non-completers Received	14.5%		10.2%		12.8%		13.9%		51.1%

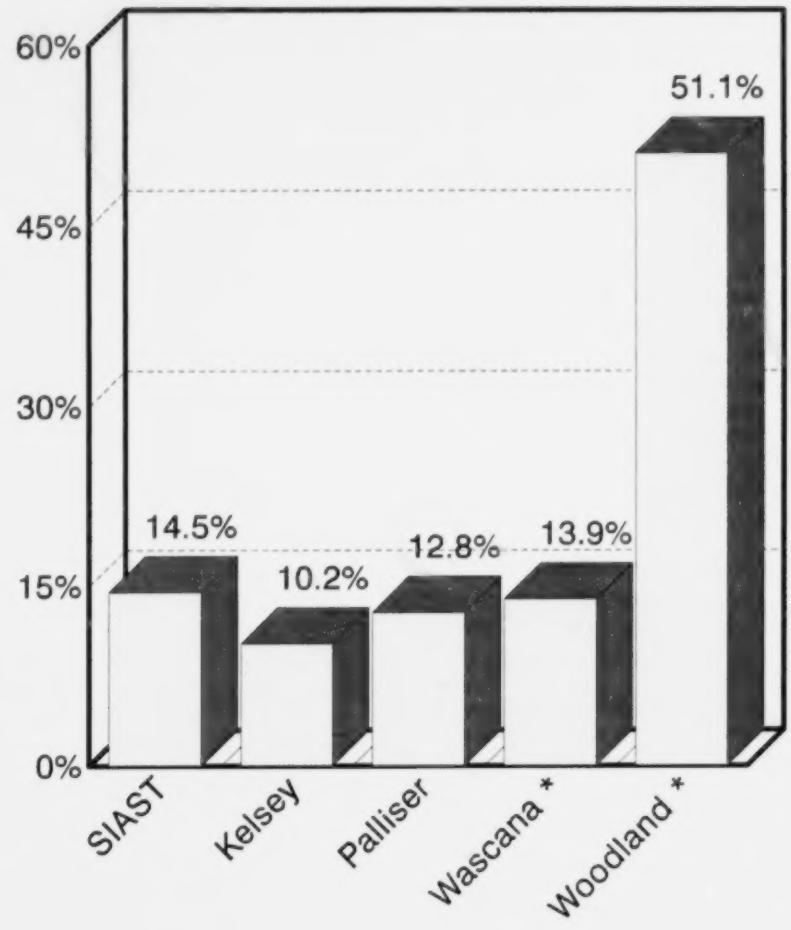
Wascana Institute has a higher percentage of female students due to relative high enrollments in the Office Education and Diploma Nursing programs. The response rates for Part I are significantly higher for Wascana. This suggests that females are more likely to complete and return questionnaires than males.

The last row of Table 1, "Non-completers" as a percentage of questionnaires received in Part II can be taken as a rough **indicator for attrition rates**. However, we must take a number of factors into consideration. Past research studies have shown that completers are more likely to respond to questionnaires[7]. Hence, the overall SIAST attrition rate of 14.5 percent based on respondents of Part II understates the real attrition rate.

The differences in non-completion rates by institute are shown in Figure 2. Non-completion rates are based on responses of Part II of the study.

[7] Cheryl Farabaugh-Dorkin, "Beginning to Understand Why Older Students Drop Out of College: A Path Analytic Test of the Bean/Metzner Model of Non-traditional Student Attrition". The Association for Institutional Research, Number 39, Spring 1991, p. 8.

Figure 2 **Non-Completion Rates by Institute (Based on Responses of Part II of the Study)**



* At Woodland, competency-based mode of instruction must be taken into consideration. Students work at their own speed and may not have completed their program by June. A number of programs at Wascana also apply to this learning method.

4.2.2 Goal Commitment

How sure are you of your choice of career goal? *(Question #3)*

Table 2 Career Goal		
	Total Sample	**Non-Completers**
very sure	56.2%	50.0%
fairly sure	37.6%	39.8%
not sure	6.2%	10.2%
Total # of Respondents	1,536	105

The vast majority of first year students (93.8 percent) are quite certain about their career goals. This is important to note since we later find out that a change in career plans played a major role in the decision to withdraw from previously attended educational institutions (Question 13). 10.2 percent of those students that did not complete their program were "not sure" about their career goal compared to only 6.2 percent of the total sample.

If you were offered a job right now that requires your skills and which pays the going wage rate, would you take the job now or finish off the program in which you are enrolled? *(Question #8)*

Table 3 Job Offers		
	Total Sample	**Non-Completers**
I would definitely take the job right now.	5.5%	10.35
I would not take the job right now, but finish program.	61.3%	48.5%
I don't know. Whether or not I would take the job now would depend on the state of the economy, what future job prospects might be, etc.	28.0%	35.1%
Other	5.1%	6.2%
Total # of Respondents	1,535	105

61 percent of overall students are committed to completing their program first compared to 49 percent of non-completers. Although students believe that a certificate or diploma increases job prospects and earning potential, a fairly high percentage (28 percent) indicated that concerns of the future economic conditions override the commitment to program completion.

The non-completers show less commitment towards completing their program. Almost twice as many non-completers said they would take a job now rather than completing the program; they also are more influenced by the economic conditions prevailing at the time.

How important to you are the following factors in determining your career choice? *(Question #4)*

Table 4 Importance of Factors in Determining Career Choice					
Factors	**very important (3)**	**somewhat important (2)**	**not important (1)**	**mean**	**Total # Respondents**
salary	51.3%	47.1%	1.6%	2.5	1,549
job availability	76.9%	21.5%	1.6%	2.8	1,547
location of available jobs	39.6%	47.5%	12.9%	2.3	1,544
job prestige or status	24.8%	56.6%	18.6%	2.1	1,540
working conditions	60.7%	37.1%	2.3%	2.6	1,549
personal interest/aptitude	82.6%	16.7%	0.7%	2.8	1,542

The higher the mean, the more important the factor in making a career choice.

Students are very much influenced by job availability in their choice of a career. It is a very important factor and ranked equally with personal interest or aptitude (both factors have a mean of 2.8). Comparing the responses of the overall survey to the responses of those students who did not complete the program, there are no significant differences for most factors. Working conditions and personal interest/aptitude are slightly more important (mean of 2.7 and 2.9 respectively) for non-completers compared to 2.6 and 2.8 for the total sample.

4.2.3 Educational Goal

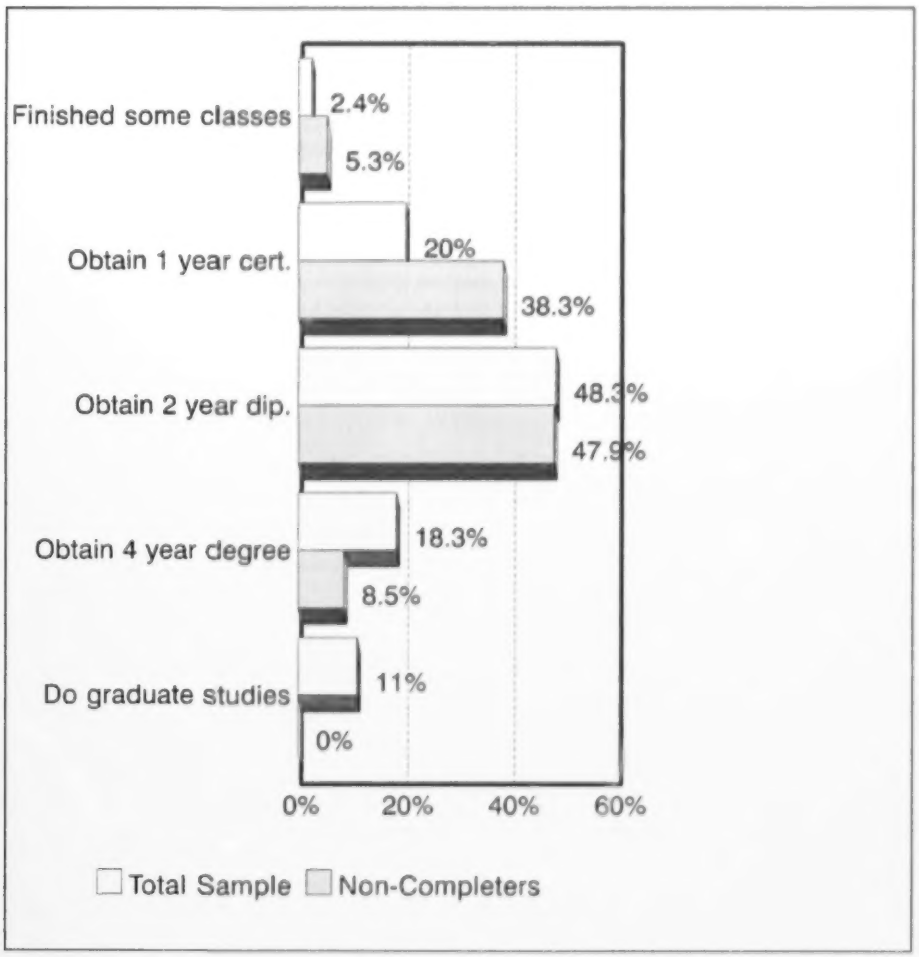
During the next 5 - 10 years, what is the highest level of education you plan to achieve? *(Question #5)*

Table 5 Highest Educational Goal					
Level of Education	**Total**	**Kelsey**	**Palliser**	**Wascana**	**Woodland**
finish some classes	2.4%	1.6%	1.8%	3.5%	3.7%
obtain a one year certificate	20.0%	18.2%	8.9%	28.3%	28.9%
obtain a two year diploma	48.3%	47.6%	60.7%	40.9%	43.7%
obtain a four year University degree	18.3%	20.7%	15.7%	18.7%	13.3%
do graduate studies beyond four year degree	11.0%	11.8%	13.0%	8.6%	10.4%
Total # of Respondents	1,451	550	338	428	135

Students have set themselves high goals. Nearly 30 percent plan to obtain a four year university degree or undertake graduate studies beyond that level.

It has been shown that employment levels among recent graduates increases with the level of educational qualifications[8]. No doubt SIAST students believe this as well. 97.7 percent said that prospects of finding employment are increased by having a certificate or diploma compared to a person without such qualifications, and 95.3 percent believe that they have a higher income potential with a certificate or diploma. This belief is also held by non-completers (Questions 6 and 7 in the questionnaire). However, non-completers have lower educational goals. 5.3 percent (compared to 2.4 percent) only wanted to finish some classes and markedly fewer planned to go on to University. The difference between completers and non-completers is illustrated graphically in the following figure.

Figure 3 Highest Education Goal (Total Sample Compared to Non-Completers)



[8] Profile of Higher Education in Canada, 1991 edition, Department of the Secretary of State of Canada, March 1991, p. 40.

We also compared responses given in December, 1991 regarding highest educational goals to the responses given in July, 1992 (Part II Questionnaire). In the second questionnaire, 16.5 percent said they are not considering further education. 47.9 percent said they wanted to finish their program at SIAST. These would primarily be students enrolled in a two year diploma program (48.3 percent stated in Part I that their goal was to complete a two year diploma).

12.9 percent said they were still planning to go to university (compared to 39 percent in Part 1) and another 27 percent planned to go to another institution or into apprenticeship. In most cases (56), the "other institution" was listed as another SIAST program.

This intention of students to transfer to and from other educational institutions is a phenomena which must be taken into consideration when studying attrition. This inter-institutional transfer has been well documented in a paper by Leslie Vaala[9]. Closer co-operation amongst educational institutions will ensure that students are given maximum credit for what they have already learned and allow for greater flexibility in addressing the educational needs of our students.

4.2.4 Reasons for Taking Program

In deciding to enroll at SIAST, how important were each of the following reasons? *(Question #8)*

Table 6
Importance of Reasons in Decision to Enroll at SIAST

Reasons for Enrolling	very important (3)	somewhat important (2)	not important (1)	not applicable	mean without n/a	Total # Respondents
to acquire skills in the field of my choice	88.1%	11.0%	0.5%	0.4%	2.9	1,551
to acquire skills needed for employment	79.9%	16.8%	1.8%	1.4%	2.8	1,549
to acquire additional skills to change careers	36.8%	28.8%	9.7%	24.6%	2.4	1,543
to be able to earn more money	54.5%	35.4%	5.2%	4.9%	2.5	1,547
to qualify for a promotion	24.9%	25.4%	12.9%	36.8%	2.2	1,536
to obtain a certificate or diploma	77.5%	18.5%	2.4%	1.6%	2.8	1,546
for personal interest/enjoyment	49.7%	37.2%	8.0%	5.1%	2.4	1,545
to be able to transfer to a university later	13.4%	24.6%	28.1%	34.0%	1.8	1,543

The means have been calculated without the response category "not applicable - n/a" in order to better reflect the importance of the reason. The higher the mean, the more important the reason. A mean of '3' would tell us that all respondents who found this reason applicable had rated it as "very important".

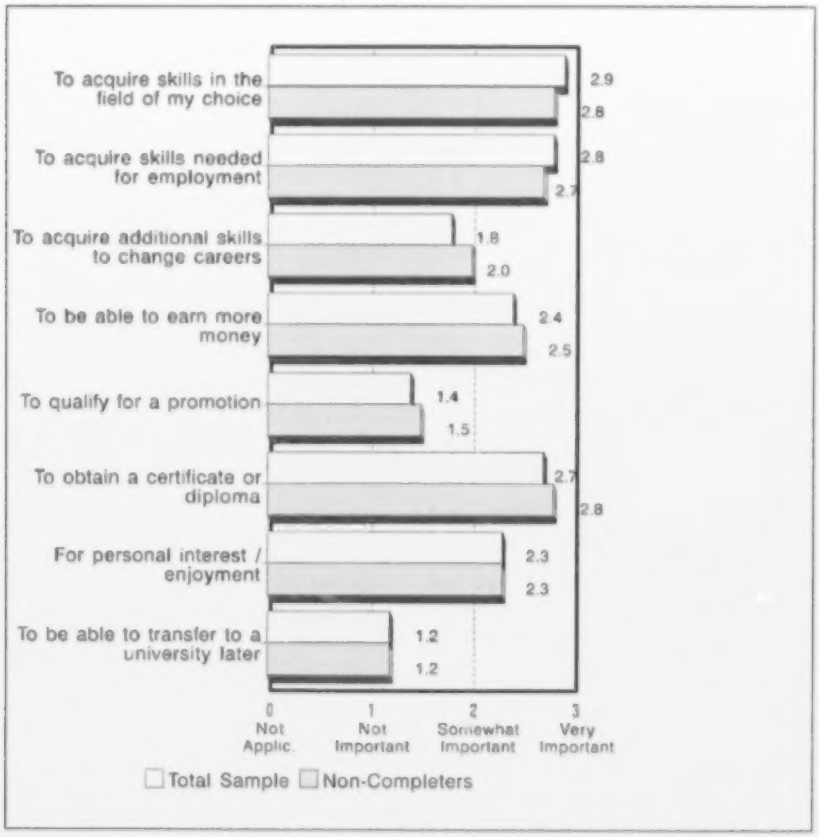
[9] Vaala, Leslie D. "The Best Place to be: New Perspectives on Attending a Two-Year College After a Four Year University." A paper presented at the Annual Conference of the Society for the Study of Higher Education. Kingston, Ontario. June 2-4, 1991.

To acquire skills that have currency in the job market is by far the strongest motivational force for students to enroll in SIAST certificate and diploma programs. Most students are still in the early stages of their career paths, therefore taking the program to qualify for a promotion is less important. Almost two thirds of the students decided to enroll at SIAST in order to acquire additional skills to change careers and 38 percent are enrolled at SIAST in order to be able to transfer to a university later. For some of these students completing the SIAST program and receiving a certificate or diploma would not be the goal in itself, but if the program enabled them to go on to university these students would have met their own objectives.

The figure below indicates the difference of how important these reasons are to the non-completers in comparison to the total sample. In this case the calculation of the means included the "non-applicable" category (for both groups) to ensure that non-use or non-applicability is also reflected. The lower the mean indicates less importance or non-applicability.

Non-completers ranked "acquiring skills to change careers" higher as a reason for enrolling at SIAST. "To qualify for a promotion" and "be able to earn more money were also more important. Since 95 percent of non-completers also believe that obtaining a certificate or diploma would increase their earning potential (see p. 10), it is not surprising that they give this factor higher ratings which is consistent with stronger motivation to earn more money. Stronger financial or promotion incentive does not correlate with a greater probability of persisting.

Figure 4 Importance in Reasons in Decision to Enroll at SIAST



4.2.5 Employment History Prior to Attending SIAST

What was your main activity prior to attending SIAST? *(Question #10)*

Table 7
Main Activity Prior to Attending SIAST

Activity	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
was working full time	581	38.1%	37.6%	32.0%	39.9%	49.7%	34.4%
was unemployed but looking for work	172	11.3%	11.5%	10.9%	8.3%	20.5%	21.9%
was working part time	350	23.0%	21.0%	23.7%	28.3%	13.2%	19.8%
was not employed, but not looking for work	420	27.6%	30.0%	33.4%	23.5%	16.6%	24.0%
Total # of Respondents	1,523		587	359	446	151	105
no response	34		13	10	10	1	

A relatively high percentage of students were working full time prior to entering SIAST. Their decision to take further education was no doubt influenced by the widely held belief that a certificate or diploma would increase their potential income levels. A greater percentage of students from Woodland Institute were unemployed prior to attending SIAST.

Table 7A
Comparison of Total Sample & Non-Completers

Activity	Total Sample	Non-Completers
	%	%
was working full time	38.1%	34.4%
was unemployed but looking for work	11.3%	21.9%
was working part time	23.0%	19.8%
was not employed, but not looking for work	27.6%	24.0%

It is interesting to note that a greater percentage of non-completers (21.9 percent compared to 11.3 percent of the total sample) was unemployed prior to attending SIAST. This may explain their preference to accept employment rather than complete the program (Question #8, Table 3).

If you answered "was not employed, but not looking for work"' above, please specify reason(s). *(Question #11)*

Table 8 Reasons For Not Being Employed and Not Looking For Work			
Reason	**Total Sample (N = 1,557)**		**Non-Completers (N = 99)**
	#	**%**	**#**
completing high school	307	19.7%	14
enrolled at university	84	5.4%	2
enrolled at other institution	70	4.5%	1
medical	27	1.7%	3
family reasons	44	2.8%	1
travelling	3	0.2%	0
other	41	2.6%	5
Total	**573**		**26**

The total number of respondents answering this question is higher than those that were not in the work force (unemployed and not looking for work), therefore, a number of part time employed or unemployed (but looking for work) also responded. Relatively more non-completers gave "medical" as a reason for not being in the workforce.

4.2.6 Previous Withdrawals from Educational Institutions

Before entering SIAST had you ever withdrawn from school or another educational institution or had you transferred from another post-secondary educational institution? *(Question #12)*

Table 9 Previous Transfer or Withdrawal from Other Educational Institution						
	SIAST		**Kelsey**	**Palliser**	**Wascana**	**Woodland**
	#	**%**	**%**	**%**	**%**	**%**
took leave of absence	44	2.8%	1.2%	0.3%	0.9%	0.3%
transferred before completing my program	52	3.3%	1.3%	0.5%	1.2%	0.3%
withdrew from educational institution	309	19.8%	8.5%	3.9%	5.7%	1.7%

26 percent of all first year responding students had not completed a program from another post-secondary educational institution. The reasons for non-completion of previous post-secondary programs may shed some light on whether students may be likely to persist in present programs. A withdrawal rate (or attrition rate) of 20 percent may be considered to be quite acceptable by students. If this is the case, a goal of 10 - 15 percent attrition may be too optimistic. There was no significant difference for previous

withdrawal rates by the non-completers compared to the overall respondents. The higher percentage of Kelsey and Wascana students who had previously withdrawn reflect the location of the two universities and the trend towards reverse transfer. 22 percent had previously attended university (see Table 19, Question #22).

If you marked one of the above, how important were each of the reasons listed below in your decision to take a leave of absence, withdraw or transfer? *(Question #13)*

Table 10
Importance of Reasons For Non-Completion of Previous Post-Secondary Programs

Reasons	very important (3)	somewhat important (2)	not important (1)	not applicable	mean without n/a	Total # Respondents
changed my career plans	32.2%	22.7%	9.8%	35.4%	2.3	410
wanted practical experience	27.2%	23.7%	15.6%	33.1%	2.2	405
didn't feel I "fit in"	15.7%	17.9%	21.8%	44.6%	1.9	408
had a good job offer	10.1%	10.6%	16.2%	63.1%	1.8	407
wanted to be closer to home	6.5%	10.9%	21.6%	61.0%	1.6	403
had financial problems	17.1%	21.0%	19.6%	42.3%	2.0	409
family responsibilities	15.8%	10.0%	17.7%	56.6%	2.0	412
found course work too difficult	10.8%	16.3%	24.6%	48.3%	1.7	406
was asked to discontinue	9.2%	6.7%	6.9%	77.2%	2.1	403

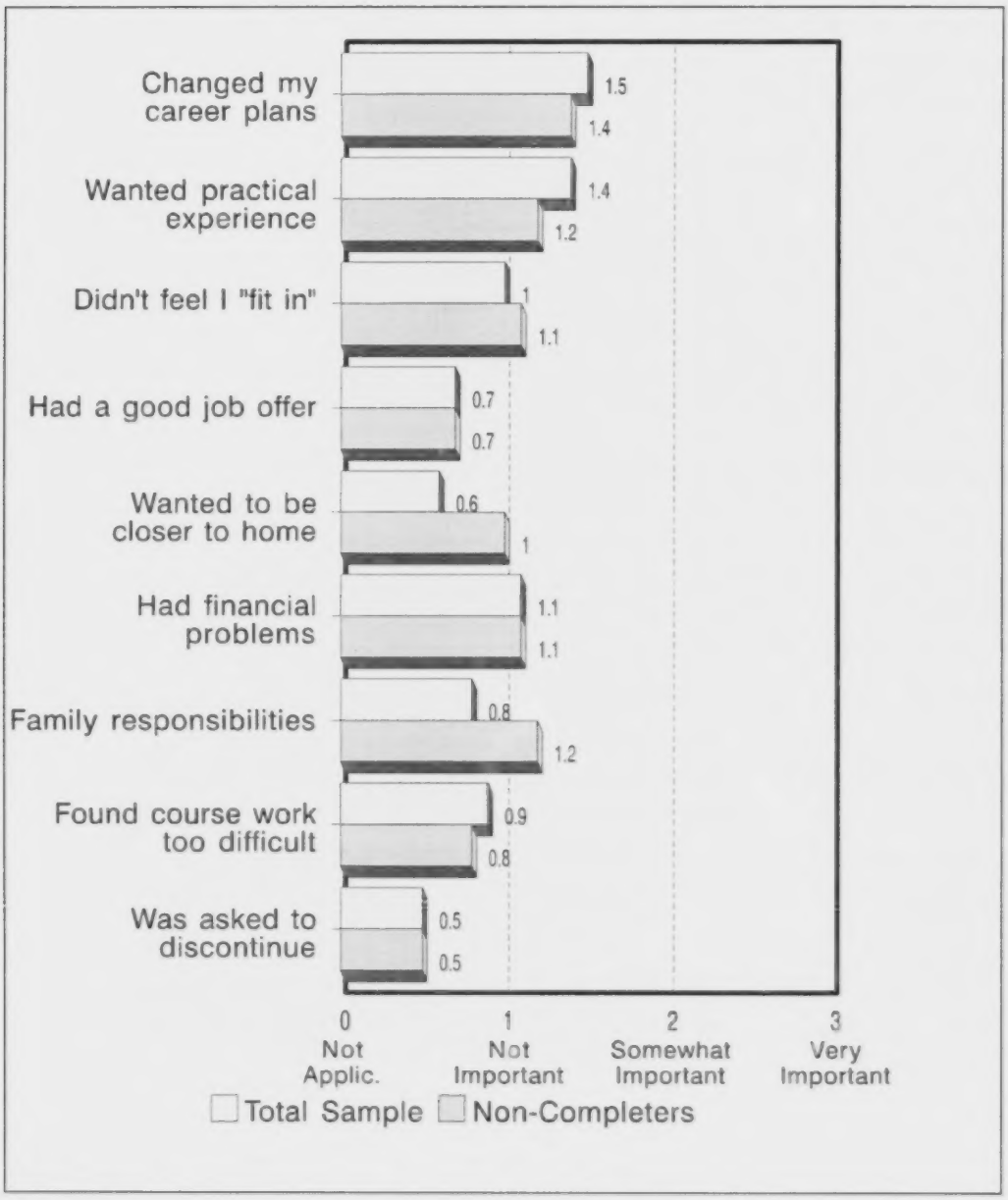
Again, the mean in this table does not include the respondents who answered "non-applicable" to reflect the level of importance to students who are influenced by these reasons.

Changing career plans is the most important reason for discontinuing a previously attempted post-secondary program. This points to the importance of career counselling. Providing extensive career counselling prior to enrolling in a SIAST program would be the student service that would have the greatest pay-off in terms of ensuring that students will complete their program.

Financial problems are a reason for some but over 62 percent said this reason did not apply or was not important. However, it was more important to non-completers.

For non-completers "family responsibilities" and "wanting to be closer to home" were significantly more important reasons for non-completion of previous post-secondary programs. See the following figure. The comparative means illustrating the differences of non-completers in this figure do include "non-applicable" responses to reflect the overall importance of the reason for each group. This procedure will be followed throughout the report. The means comparing non-completers to the total sample include the "non-applicable" responses.

Figure 5 **Importance of Reasons for Non-Completion of Previous Post-Secondary Programs**



4.2.7 Importance of Factors in Choosing SIAST

How important were the following factors in choosing SIAST? (Question #14)

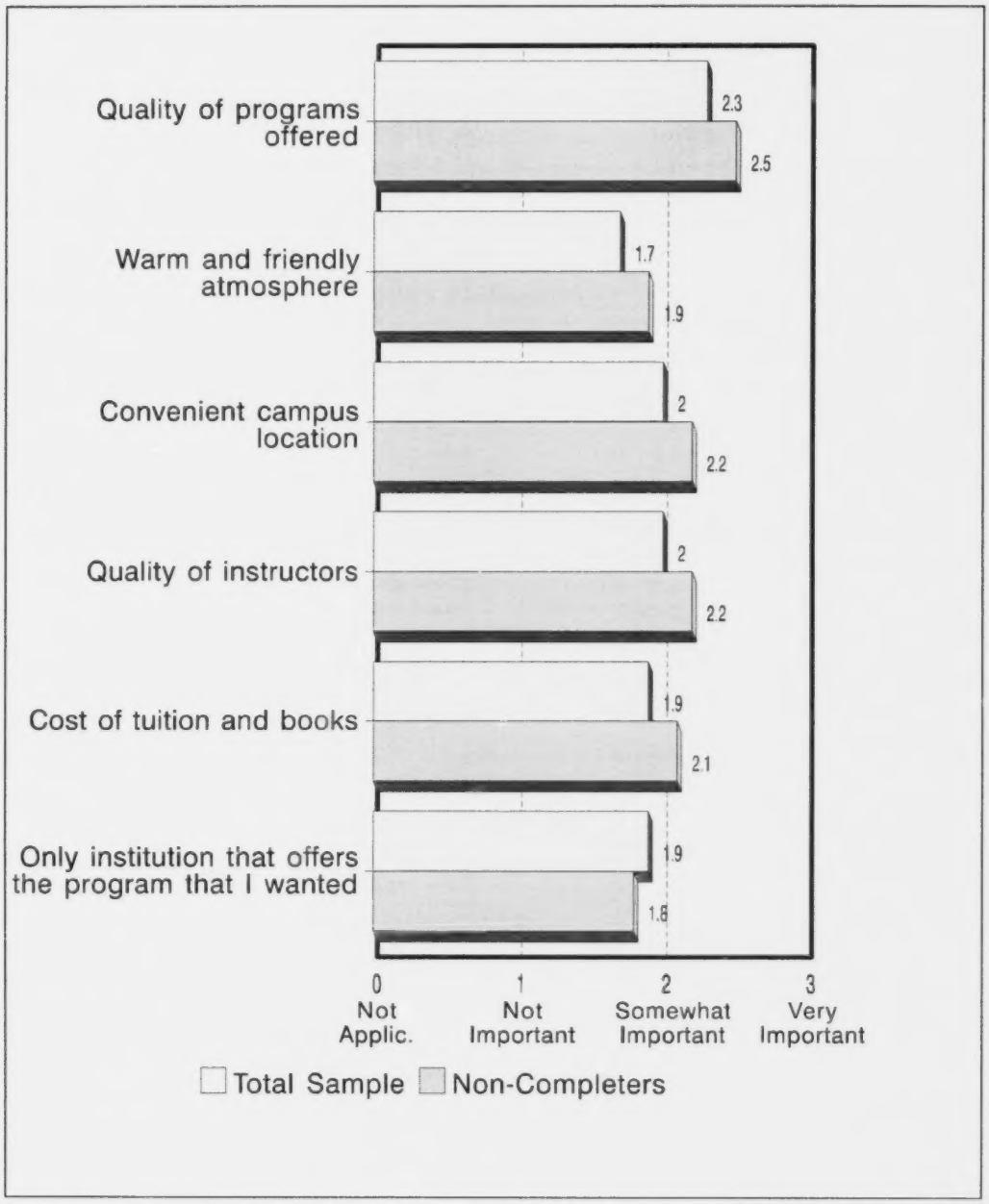
Table 11
Importance of Factors in Choosing SIAST

Factors	very important (3)	somewhat important (2)	not important (1)	not applicable	mean without n/a	Total # Respondents
quality of programs offered	57.6%	29.3%	2.6%	10.4%	2.6	1,513
warm and friendly atmosphere	24.1%	41.2%	14.2%	20.6%	2.1	1,505
convenient campus location	36.5%	34.0%	18.9%	10.6%	2.2	1,517
quality of instructors	46.5%	29.2%	5.0%	19.3%	2.5	1,504
cost of tuition and books	33.7%	38.4%	15.5%	12.4%	2.2	1,506
only institution that offers the program that I wanted	44.4%	20.2%	11.5%	23.9%	2.4	1,500

Quality of programs and instructors are the most important factors. To 29.5 percent of the respondents convenient campus location is not important or not applicable. Three quarters of the students are single (see question #25) and quite young (66.5 percent are 24 or younger - see Question #19), and hence still quite mobile.

To non-completers all of these factors (except "only institution that offers the program that I wanted") are more important in the decision to choose SIAST.

Figure 6 **Importance of Factors in Choosing SIAST**



4.2.8 Satisfaction with Facilities and Services

Please rate your satisfaction with your SIAST campus for each of the factors below. *(Question #15)*

Table 12
Satisfaction with SIAST

Factors	Total # Respondents	very satisfied (3)	somewhat satisfied (2)	not satisfied (1)	not applicable	mean without n/a
library facilities	1,541	32.6%	43.3%	7.3%	16.7%	2.3
accessibility to instructors	1,557	51.2%	39.9%	7.7%	1.2%	2.4
vocational and career counselling	1,537	24.3%	29.6%	5.8%	40.3%	2.3
personal counselling	1,536	21.5%	24.3%	5.1%	49.2%	2.3
computer facilities	1,534	28.2%	26.7%	10.2%	34.9%	2.3
financial aid	1,531	12.9%	20.2%	14.9%	51.9%	2.0
campus health services	1,533	21.8%	25.4%	3.8%	49.0%	2.4
class size	1,543	54.9%	35.1%	5.7%	4.3%	2.5
campus social life	1,535	32.7%	38.1%	7.3%	21.9%	2.3
orientation sessions for new students	1,543	33.7%	40.3%	11.4%	14.6%	2.3
tutorial help	1,536	16.6%	22.7%	8.5%	52.2%	2.2
availability of scholarships	1,526	12.1%	27.7%	18.9%	41.3%	1.9
extracurricular activities	1,536	29.2%	32.4%	7.1%	31.4%	2.3
overall experience	1,557	46.1%	46.7%	3.4%	3.7%	2.4

The "non-applicable" response category was used to indicate non-use and non-availability of a service. Means were again calculated without the "non-applicable" category to better reflect the satisfaction level of those responding students who have actually used such services.

Differences by institutes are illustrated in Table 12A. Means do not include "not applicable"; therefore, the ratings represent only those who have actually used such services.

Table 12A Satisfaction with SIAST Comparison of Mean by Institute					
Factors	**Total # Respondents**	**Kelsey Institute**	**Palliser Institute**	**Wascana Institute**	**Woodland Institute**
library facilities	1,541	2.3	2.2	2.4	2.5
accessibility to instructors	1,557	2.5	2.5	2.4	2.2
vocational and career counselling	1,537	2.2	2.4	2.3	2.3
personal counselling	1,536	2.3	2.3	2.4	2.4
computer facilities	1,534	2.2	2.2	2.3	2.5
financial aid	1,531	2.0	1.8	1.9	2.2
campus health services	1,533	2.4	2.1	2.3	2.5
class size	1,543	2.5	2.6	2.4	2.6
campus social life	1,535	2.4	2.3	2.2	2.3
orientation sessions for new students	1,543	2.2	2.4	2.2	2.4
tutorial help	1,536	2.1	2.0	2.3	2.4
availability of scholarships	1,526	1.9	1.8	1.9	2.1
extracurricular activities	1,536	2.4	2.4	2.1	2.4
overall experience	1,557	2.5	2.4	2.4	2.5

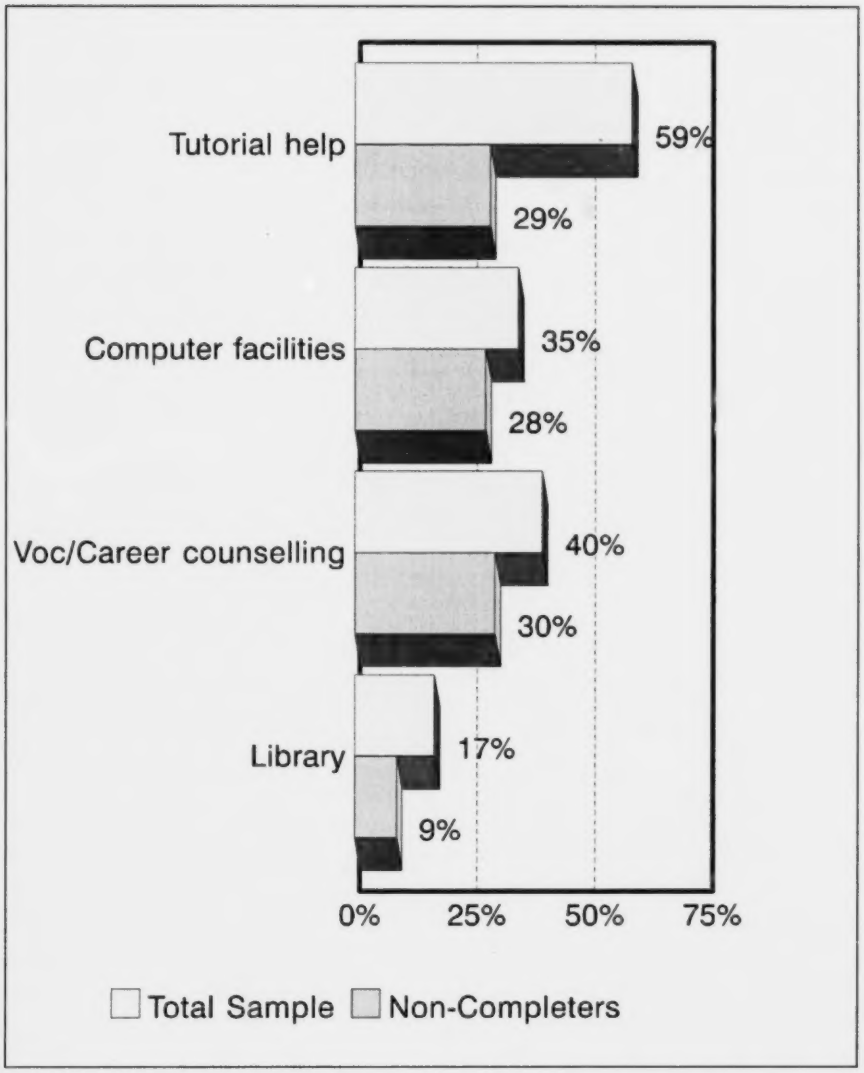
The highest levels of satisfaction are with class size and instructor accessibility. Instructors should be congratulated on the superb job they are doing. Students indicate their lowest level of satisfaction with the availability of scholarships and financial aid. This is an area that cannot be easily remedied; however, orientation sessions for new students and computer facilities are services that could be improved. 11.4 percent and 10.2 percent of students respectively are not satisfied with these services.

The use of vocational and career counselling should be more encouraged. Over 49 percent of respondents indicated "not applicable". Those that do use the service are generally satisfied. As we have seen before, "changes in career plans" were major reasons for previous withdrawals from post-secondary institutions (see question #13); therefore, making vocational and career counselling easily accessible and encouraging prospective students to use these services would enhance retention rates.

Students at Woodland Institute rate a number of services higher than students elsewhere. Library, computer facilities and health services are rated especially high at Woodland; however, accessibility to instructors received lower ratings.

We will now compare the use and satisfaction of non-completers to the overall responders.

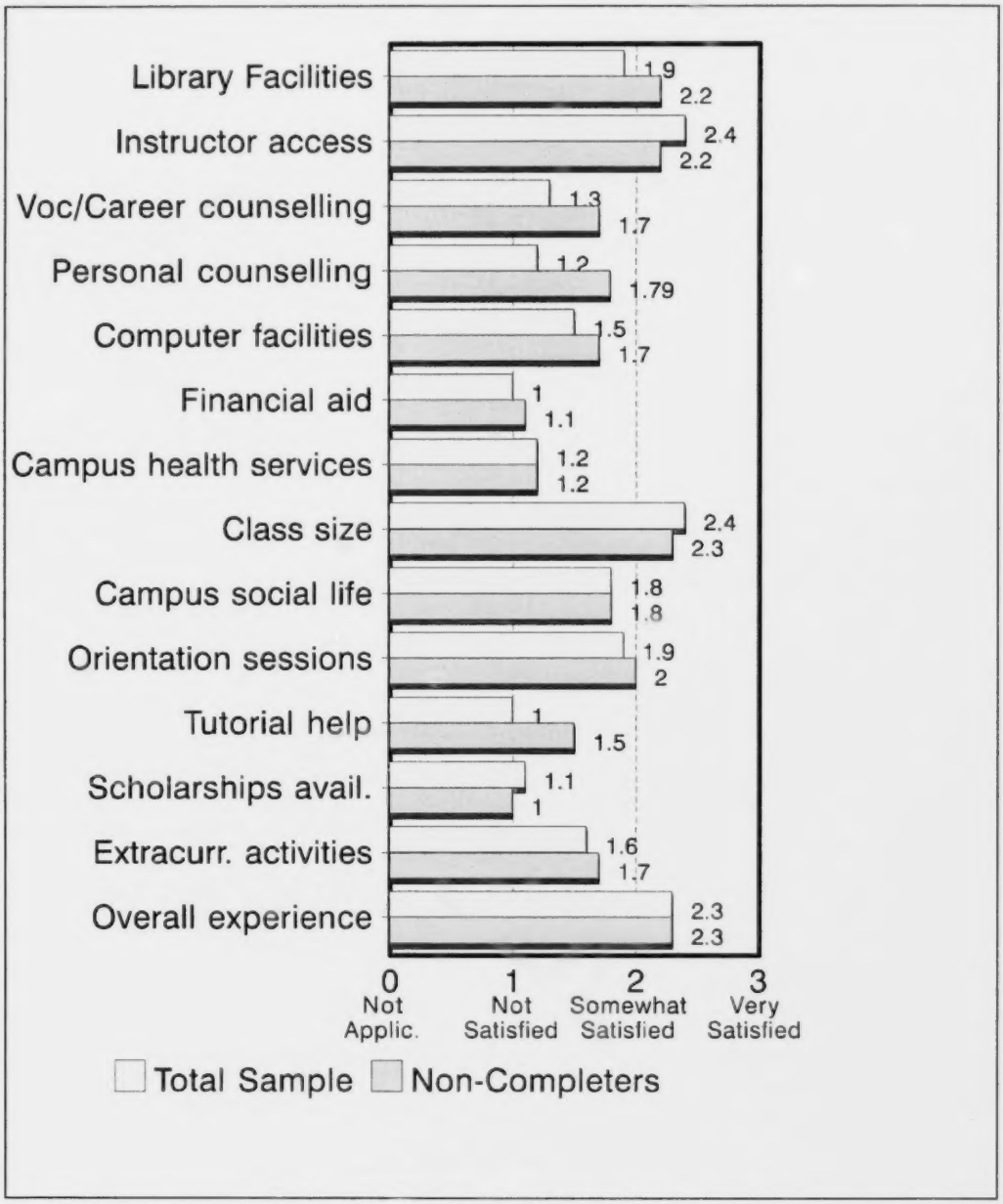
Figure 7 **Comparison of Total Sample and Non-Completers - Percent Stating Service Was Not Used/Not Available**



Non-completers have used the services to a greater extent than the respondents overall. Especially library facilities, vocational and career counselling, computer facilities and tutorials show marked differences. For example, 52 percent of the total sample responded that "tutorial help" was not applicable; whereas only 29 percent of non-completers answered not applicable or not used. 28 percent of non-completers responded that "computer facilities" were not applicable, compared to 35 percent of the total sample; 30 percent of non-completers said that "vocational and career counselling" was not applicable, compared to 40 percent of the total sample; and 9 percent of non-respondents responded that "library facilities" had not been used compared to 17 percent of the total sample.

The following figure compares the total sample to non-completers with regard to satisfaction level with services and facilties. Non-use or not-applicable is taken into consideration. Therefore, a lower rating does not necessarily mean not satisfied but it is also an indication of how many respondents have not used such a service. A mean of "1" would indicate that close to 50 percent of respondents have not used the service.

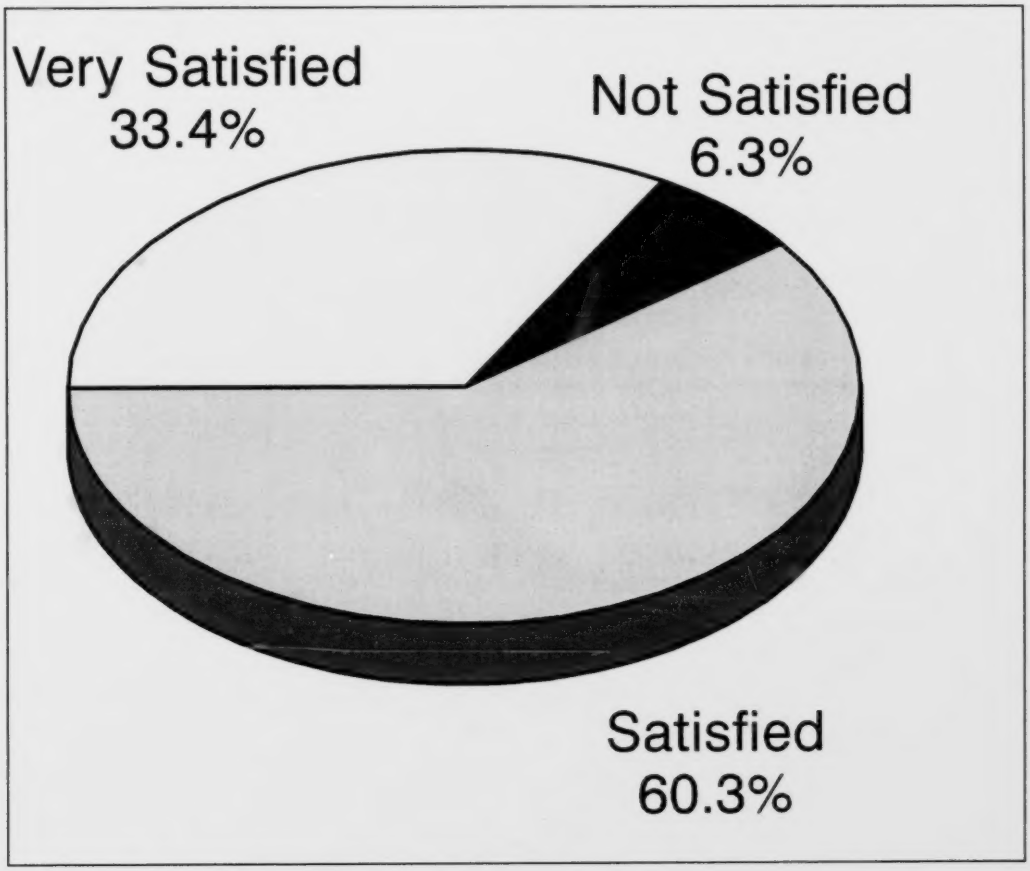
Figure 8 Satisfaction with SIAST - Comparison of Total Sample and Non-Completers



How would you rate your overall experience at SIAST? *(Question #5 in Part II)*

The overwhelming majority of students (93.7 percent) had very positive experiences at SIAST. Of the 713 students responding to Part II, 33.4 percent are very satisfied and 60.3 percent are satisfied with their overall experience at SIAST.

Figure 9 Satisfaction Levels with SIAST Overall



4.2.9 Social and Academic Integration

In your experience at SIAST during the current year, how often have you done each of the following?
(Question #16)

Table 13
Participation in Activities

Activities	very often (4)	often (3)	occasionally (2)	never (1)	mean
read or asked about a club, student organization or student government activity	5.8%	15.4%	41.3%	37.5%	1.9
attended a program or event put on by a student group	7.1%	13.3%	35.6%	44.0%	1.8
worked on a student committee	3.3%	3.0%	8.3%	85.4%	1.2
discussed policies and issued related to campus activities	4.4%	10.6%	35.7%	49.3%	1.7
participated in on campus sports or recreational activities	15.8%	16.2%	27.1%	40.9%	2.1
met with a group of students for discussions	12.1%	17.7%	33.9%	36.4%	2.1
made friends with students in your program area at SIAST	61.5%	27.7%	9.3%	1.4%	3.5
made friends with students who are taking different programs	23.4%	21.6%	37.5%	16.5%	2.5

Students rely primarily on informal networks such as friends from their own program area rather than organized student activities. Participation in organized student activities is "occasional". Over 30 percent of respondents have participated "very often" or "often" in on campus sports or recreational activities. There is no significant difference in frequency of participation in activities by non-completers compared to the overall sample.

Since starting your program at SIAST, who provided assistance to you in the following areas? *(Question #17)*

Table 14 Sources of Assistance at SIAST						
Sources	**instructors**	**counsellors**	**deans**	**family/ friends**	**other students**	**others**
advice and guidance about program	58.2%	27.3%	3.3%	36.2%	44.5%	10.1%
emotional support and encouragement	31.1%	11.2%	1.2%	78.8%	46.2%	10.0%
tutorial assistance	38.6%	7.8%	0.5%	12.5%	32.9%	8.9%
help with improving study skills	33.5%	21.1%	0.6%	17.9%	28.5%	8.5%
intellectual challenge and stimulation	56.8%	4.5%	1.1%	21.5%	33.3%	7.5%
a role model to follow	40.6%	4.6%	1.3%	30.7%	29.3%	13.8%
finding your way around the campus	32.9%	8.9%	1.0%	12.0%	71.5%	7.6%
Average in all areas	**41.67%**	**12.2%**	**1.29%**	**29.9%**	**40.9%**	**9.5%**

Instructors are rated as being extremely important in providing assistance in a number of areas. Overall they are the most important source of assistance followed by other students. Family and friends are used mainly for emotional support. The assistance of counsellors is primarily limited to advice and guidance about programs and help with improving study skills. Approximately 25 percent of respondents had received assistance from counsellors in these two areas. More counsellors should be made available so that the heavy reliance on instructors for advice and guidance could be reduced. (Approximately 50 percent of students have not used counselling or tutorial services; see question #15, Table 12.)

4.2.10 Perceived Impact of Factors on Completion of Program

To what extent would the following factors have an impact on whether you will complete your program? *(Question #18)*

Table 15 Impact of Factors on Program Completion				
Factors	**great impact (3)**	**some impact (2)**	**no impact (1)**	**mean**
sessions in improving study skills	19.1%	37.1%	43.8%	1.8
scheduled office hours for instructors	16.7%	39.4%	43.9%	1.7
financial aid counselling services	20.2%	27.2%	52.6%	1.7
tutorial sessions	17.0%	34.4%	48.5%	1.7
child care facilities	6.5%	5.2%	88.4%	1.2
overall Saskatchewan unemployment rates	25.3%	25.7%	48.9%	1.8

Child care facilities have the least impact on decisions to complete programs. Since only 22 percent of respondents have children, this service does not affect very many students. Overall Saskatchewan employment rates have the greatest impact on whether students will complete their program. 25 percent of respondents rated this factor as having "great impact" and the percentage rose to 26.4 percent for non-completers.

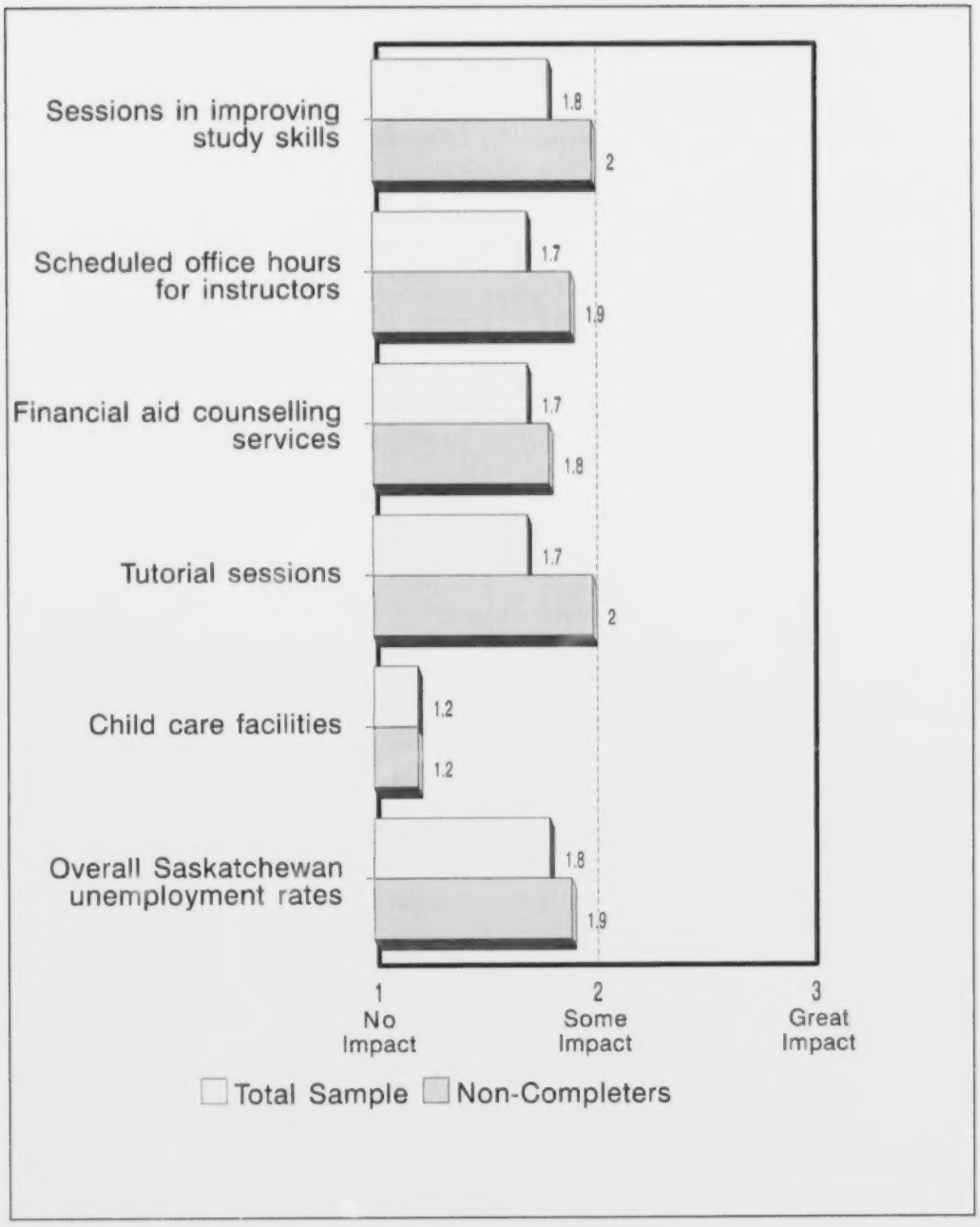
All of the above factors, with the exception of "child care facilities", have a greater impact on program completion according to non-completers compared to the overall respondents.

Comparing these factors by institutes, unemployment rates have the greatest impact on students at Woodland Institute. Scheduled office hours for instructors are perceived to have much more impact on retention at Woodland compared to the other institutes. All the factors listed are perceived by Woodland students to have greater impact. It appears that there is a need for Woodland Institute to increase accessibility of instructors, and provide more sessions in improving study skills.

Table 15A
Impact of Factors on Program Completion
Means by Institutes

Factors	Kelsey	Palliser	Wascana	Woodland
sessions in improving study skills	1.7	1.8	1.7	2.0
scheduled office hours for instructors	1.6	1.7	1.7	2.2
financial aid counselling services	1.6	1.7	1.7	2.0
tutorial sessions	1.6	1.7	1.7	1.8
child care facilities	1.1	1.1	1.3	1.3
overall Saskatchewan unemployment rates	1.8	1.8	1.7	1.9

Figure 10 **Impact on Factors on Program Completion**



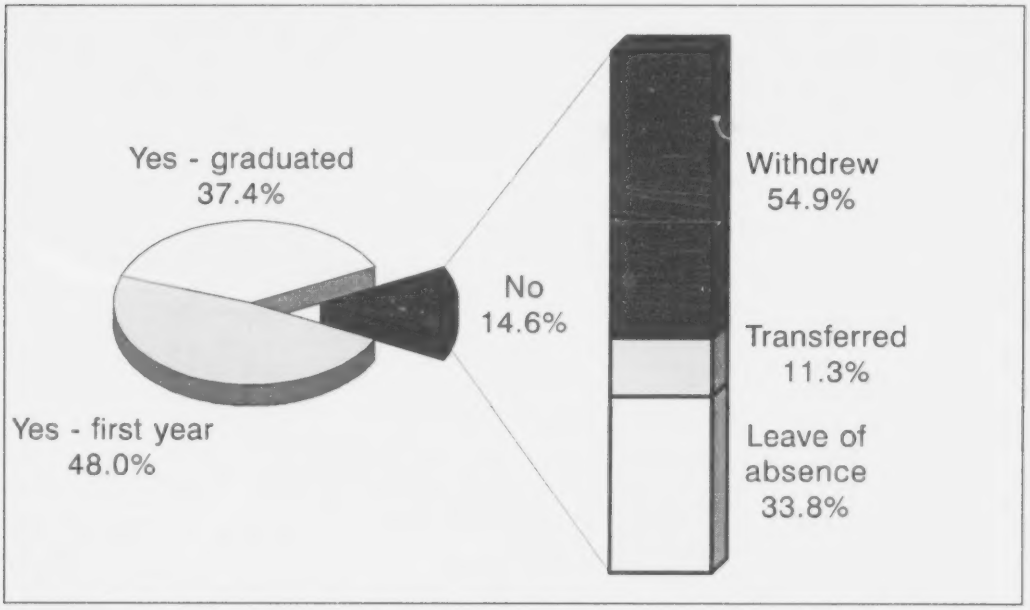
4.2.11 Importance of Reasons for Withdrawal

In Part II of the study, we asked specific questions on reasons why students had discontinued their studies and the importance of these reasons.

First of all, we established that in many cases students did not simply "drop out", but they took a leave of absence or transferred to another institution.

719 students responded to the Part II questionnaire. Of these, 37.4 percent have completed the program and graduated, 48 percent have completed the first year and will continue with the second year, and 14.6 percent did not complete their program.

Figure 11 Completion of Program - Reason For Not Completing



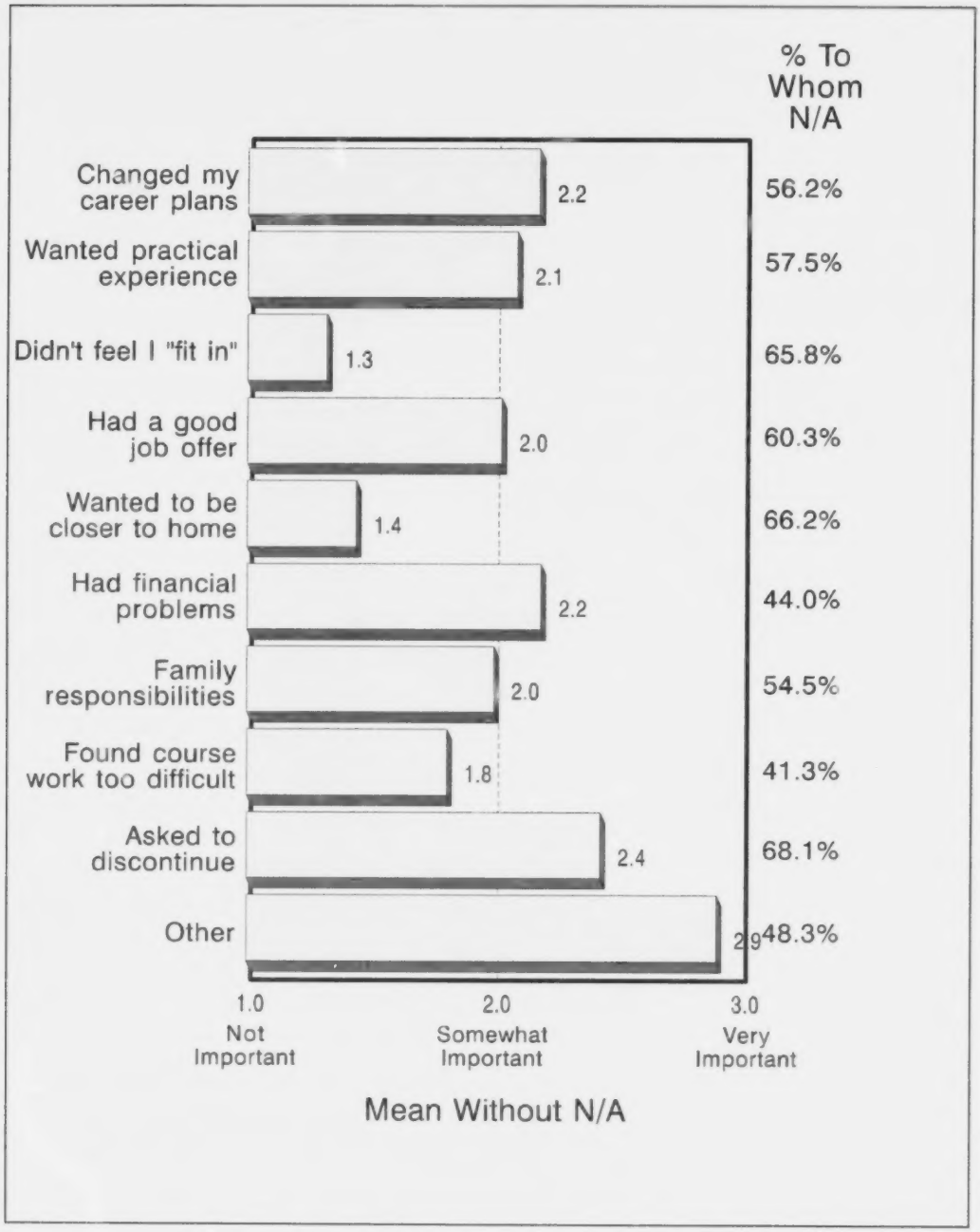
Of the students that did not complete the program (n = 105), 27 took a leave of absence, 9 transferred to another institution (usually another program at SIAST), and 9 changed to part-time study.

Table 16
Importance of Reason for Non-Completion
Non-Completers Only (n = 105)

Reason	# respondents	very important (3)	somewhat important (2)	not important (1)	not applicable (0)	mean	mean without n/a
changed my career plan	73	20.5%	11.0%	12.3%	56.2%	.96	2.18
wanted practical experience	73	16.4%	13.7%	12.3%	57.5%	.89	2.09
felt "I did not fit in"	73	0	11.0%	23.3%	65.8%	.45	1.32
had a job offer	73	17.8%	5.5%	57.5%	60.3%	.81	2.03
wanted to be closer to home	74	2.7%	9.5%	21.6%	66.2%	.49	1.44
had financial problems	75	24.0%	18.7%	13.3%	44.0%	1.23	2.19
family responsibilities	77	18.2%	9.1%	18.2%	54.5%	.91	2.00
found course work too difficult	75	9.3%	29.3%	20.0%	41.3%	1.07	1.81
was asked to discontinue	72	20.8%	4.2%	6.9%	68.1%	.78	2.43
other (please specify)	58	48.3%	1.7%	1.7%	48.3%	1.5	2.90

We have calculated two means, with and without the non-applicable category, to measure two separate situations. The reasons ranked by means which include "non-applicable" indicate to what extent these factors apply. Having financial problems and finding the course work too difficult was most frequently one of the reasons for discontinuing. For those non-completers affected by a particular reason (mean without n/a), being asked to discontinue, financial problems and changing career plans were the most important reasons for withdrawing.

Figure 12 **Importance of Reason for Non-Completion (Non-Completers Only)**



4.3 Student Characteristics

4.3.1 Age of Students

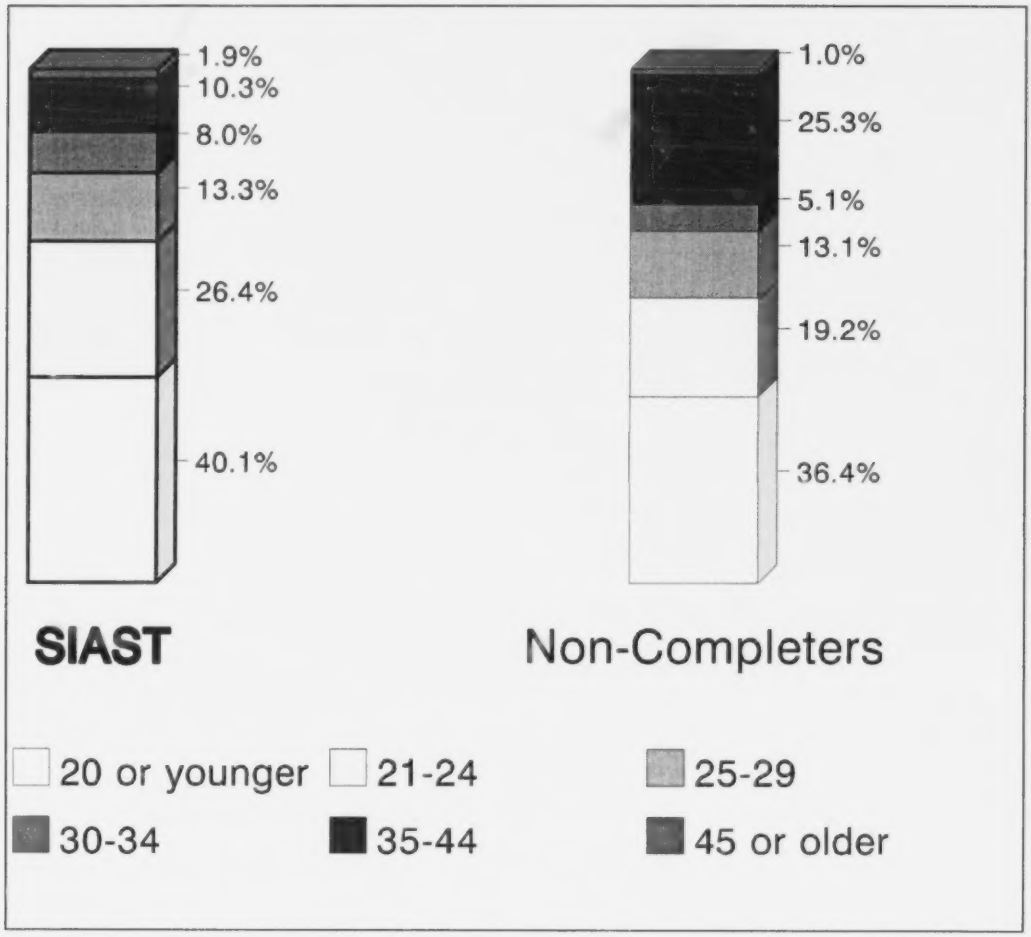
How old will you be on December 31 of this year? *(Question #19)*

Table 17
Age of First Year Certificate/Diploma Students

Age Category	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
20 or younger	622	40.1%	37.0%	57.7%	35.8%	22.4%	36.4%
21 - 24	409	26.4%	28.9%	20.5%	27.3%	28.3%	19.2%
25 - 29	207	13.3%	14.7%	9.6%	14.7%	13.2%	13.1%
30 - 34	124	8.0%	8.1%	4.4%	9.7%	11.2%	5.1%
35 - 44	160	10.3%	9.5%	6.6%	10.8%	21.1%	25.3%
45 or older	29	1.9%	1.7%	1.4%	1.8%	3.9%	1.0%
Total # of Respondents	1,551		578	366	455	152	199
No response	6						

Two thirds of first year students enrolled in certificate or diploma programs are 24 years old or younger. Palliser Institute has the youngest student population; Woodland Institute has the oldest. One quarter of all non-completers are over 35 years old compared to 12 percent of the total sample.

Figure 13 **Age of First Year Certificate/Diploma Students**



4.3.2 Previous Academic Background

In what year did you graduate from high school? *(Question #20)*

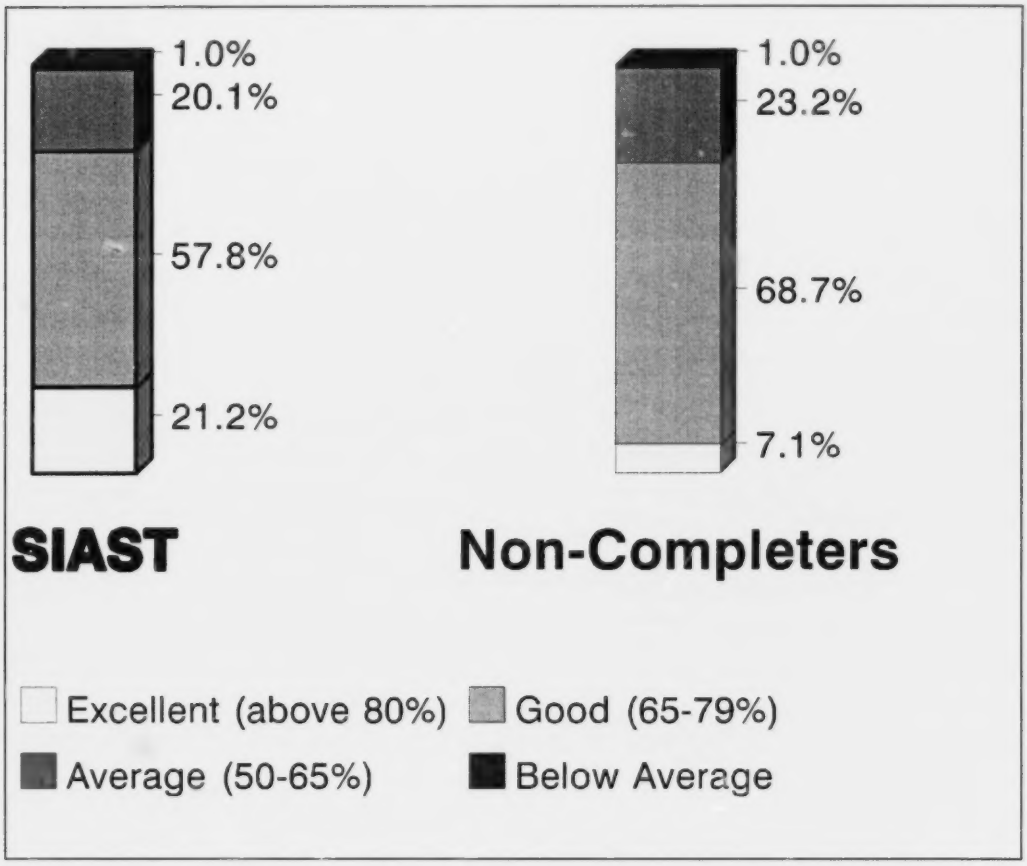
Table 18 Year of High School Graduation							
Year	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
1991	335	22.9%	18.7%	40.7%	17.4%	12.6%	19.2%
1990	242	15.9%	16.5%	18.0%	14.3%	10.6%	18.2%
1989 or earlier	760	49.1%	55.1%	33.6%	53.0%	52.3%	46.5%
did not graduate but passed GED test	113	7.3%	7.1%	3.0%	10.2%	9.9%	9.1%
never completed high school	77	5.0%	2.6%	4.6%	5.1%	14.6%	7.1%
Total # of Respondents	1,527		577	366	453	151	
No Response	10						

Nearly 23 percent of all first year certificate and diploma students are sequential students, whereas only 19 percent of the non-completers had entered SIAST directly after graduating from high school. Palliser has the highest percentage of sequential students (almost 41 percent), and Woodland has the lowest percentage of sequential students, which reflects its older student population.

Which one of the following best describes your high school grades? *(Question #21)*

Table 19 High School Grades							
Grades	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
excellent (above 80%)	327	21.2%	26.0%	18.4%	20.0%	12.6%	7.1
good (65 - 79%)	893	57.8%	54.8%	59.6%	61.2%	54.3%	68.7%
average (50 - 65%)	311	20.1%	18.9%	21.4%	17.4%	29.8%	23.2%
below average	15	1.0%	0.3%	0.5%	1.3%	3.3%	1.0%
Total # of Respondents	1,546		577	364	454	151	99
No Response	11						

Figure 14 **High School Grades - SIAST & Non-Completers**



Nearly 80 percent of respondents stated that their school grades are good or excellent. Over 21 percent of the total sample had stated that their high school grades had been excellent, compared to only 7 percent of the non-completers. **Previous academic achievement can, therefore, be linked to retention. The probability of completing a program increases with higher previous academic performance.**

The highest previous high school grades were held by Kelsey and Wascana students; most likely a reflection of the fierce competition and high admission standards for some of the programs in the health field. This is further demonstrated in Table 20. About one quarter of Kelsey and Wascana students have attended some university.

Have you ever attended University? *(Question #22)*

Table 20 Previous University Attendance							
	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
yes	342	22.2%	26.8%	15.1%	25.4%	12.15	15.3%
no	1,199	77.8%	73.2%	84.9%	74.6%	87.9%	84.7%
Total # of Respondents	1,541		575	365	452	452	

The table below (20A) must be interpreted with care. Percentages are based only on those students who had attended some university and replied to the question (n = 339). 46 have completed a degree or 2.98 percent of the total respondents.

Table 20A If yes, did you complete a degree?						
	SIAST		Kelsey	Palliser	Wascana	Woodland
	#	%	%	%	%	%
yes	46	13.6%	14.4%	16.4%	11.5%	11.1%
no	293	86.4%	85.6%	83.6%	88.5%	88.9%
Total # of Respondents	339		153	55	113	18

Transfers from and to another post-secondary institution are quite common. Over 22 percent of SIAST first year certificate and diploma students entered the institution after previous university attendance (reverse transfer). 18 percent want to eventually achieve a four year university degree and another 11 percent want to undertake graduate or professional study beyond a four year degree (see question #5 or Table 4). Co-operation amongst the various post-secondary institutions is necessary to facilitate the flow of students and to ensure that maximum credit is granted for studies already completed to avoid unnecessary duplication, and hence avoid unnecessary public expenditure on education. Clearly defined transfer guides would facilitate this. Thus students do not necessarily "drop out", but they are making mid-way adjustments to their career paths.

Have you completed an Adult Basic Education (ABE) program? *(Question #23)*

Table 21 ABE Programs		
	Total Sample	**Non-Completers**
yes	9.0%	14.0%
no	91.0%	86.0%

133 former ABE students are now registered in certificate and diploma programs, representing 9 percent of the total sample. The percentage of former ABE students amongst the non-completers rose to 14 percent.

4.3.3 Relocation From Home to Pursue Program

Did you have to move from your home address to attend this campus? *(Question #24)*

Table 22 Percent of Students Who Had to Move							
	SIAST		**Kelsey**	**Palliser**	**Wascana**	**Woodland**	**Non-Completers**
	#	**%**	**%**	**%**	**%**	**%**	**%**
yes	867	56.0%	55.4%	77.0%	40.4%	54.6%	47.4%
no	680	44.0%	44.6%	23.0%	59.6%	45.4%	52.6%
Total # Respondents	1,547		578	366	451	152	
No Response	9						

Although more than half of the students had to move from home to attend the institute of their choice, only 36 percent stated that convenient campus location was a very important factor in choosing SIAST. This had almost the same importance as cost of tuition and books. Quality of instructors and quality of programs are much more important in choosing SIAST. (Question #14, Table 11).

Fewer non-completers moved to attend SIAST. This is consistent with the fact that these students are generally older, have more family responsibilities and are less mobile. Palliser Institute, with the youngest student population, had the greatest percentage of its first year student population that had to move from home to pursue their studies.

4.3.4 Demographics of First Year Certificate and Diploma Students Responding to Survey

Table 23
Demographics of First Year Certificate and Diploma Students

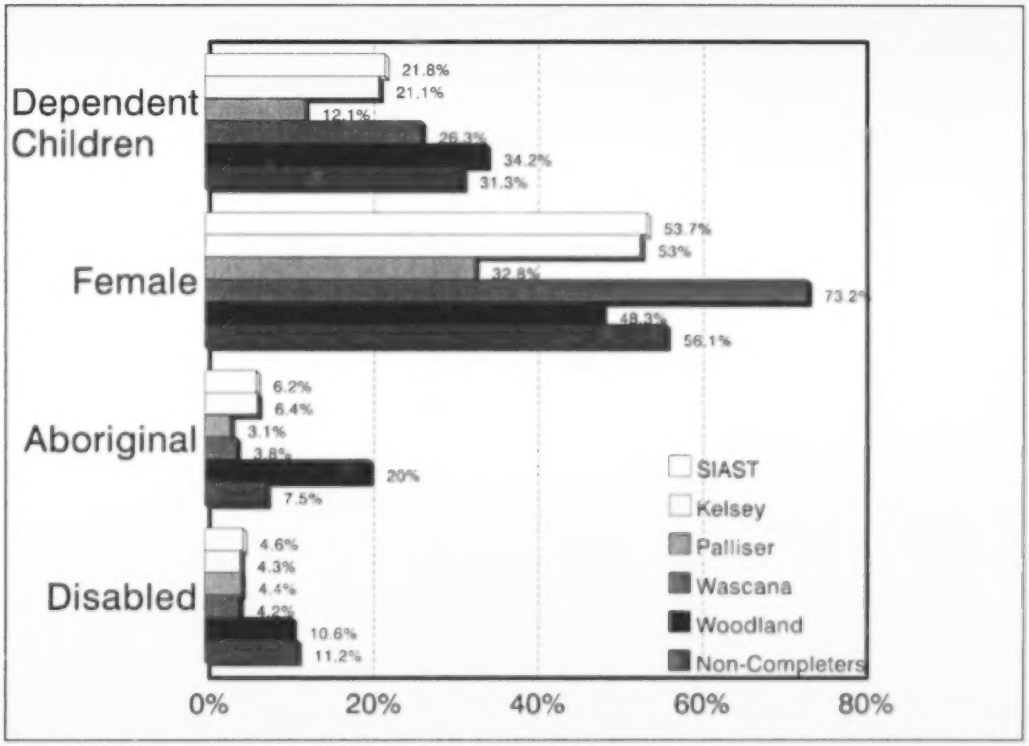
Question	SIAST (n = 1,557)			Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	N/R	% *	% *	% *	% *	%
Are you:			16					
single	1,177	76.4%		76.0%	84.7%	73.3%	66.9%	73.5%
married	363	23.6%		24.0%	15.3%	26.7%	33.1%	26.5%
Do you have dependent children?			8					
yes	337	21.8%		21.1%	12.1%	26.3%	34.2%	31.3%
no	1,212	78.2%		78.9%	87.9%	73.7%	65.8%	68.7%
Are you:			13					
male	715	46.3%		47.0%	67.2%	26.8%	51.7%	43.9%
female	829	53.7%		53.0%	32.8%	73.2%	48.3%	56.1%
Are you of Aboriginal ancestry?			31					
yes	94	6.2%		6.4%	3.1%	3.8%	20.0%	7.5%
no	1,432	93.8%		93.6%	96.9%	96.2%	80.0%	92.5%
Are you disabled?			12					
yes	76	4.9%		4.3%	4.4%	4.2%	10.6%	11.2%
no	1,468	95.1%		95.7%	95.6%	95.8%	89.4%	88.8%

* Percent of those that responded.

Non-completers are more likely to be disabled, of aboriginal ancestry, female, married, have dependent children, and they work more hours while enrolled at SIAST.

There are quite significant differences by institute as well. Palliser Institute's first year certificate/diploma students are more likely to be young, single, without dependent children, and male; whereas at Woodland Institute one third of the student population has dependent children, 20 percent are of aboriginal ancestry, and over 10 percent identified themselves as being disabled. These are the characteristics we found more frequently among the non-completers.

Figure 15 Selected Demographics of First Year Certificate/Diploma Students by Institute



How many hours per week are you employed while enrolled at SIAST? *(Question #30)*

Table 24
Number of Hours Employed

	None	1 - 10	11 - 15	16 - 20	21 - 30	31 or more
Total Sample	72.6%	8.5%	4.2%	5.1%	3.8%	5.8%
Non-Completers	69.1%	11.3%	3.1%	5.2%	5.2%	6.2%

The overwhelming majority of students are not employed while studying their programs at SIAST.

Once you have completed your certificate/diploma, would you like to stay in contact with the Institute via the Alumni Association? *(Question #32)*

58 percent would like to stay in contact with the Institute via the Alumni Association. This increased to 61 percent for non-completers.

Where can we contact you in June 1992 for Part II of the survey? *(Question #33)*

15 percent of total sample (13 percent for non-completers) indicated that they would be at a different address in June, 1992 for the mailing of the second questionnaire than in December, 1991 (the time Part I of the survey questionnaire was mailed).

Generally, no forwarding address was known at this time, thus the response rate for Part II of the study was reduced.

4.4 Labour Market and Student Retention

Although many of the studies on student persistence recognize the importance of outside influences, little emphasis is placed on the relationship between the student's decision to persist or to drop out and the broader economic environment. How does the labour market, in particular prevailing unemployment rates, affect attrition? We examined this factor in more detail and present the results below.

Since 97.7 percent of our sample believed that their prospects of finding employment are increased by having a certificate or diploma compared to a person without such a diploma, and since 95.3 percent of respondents believed that they will be able to earn a higher income with a certificate or diploma than without such qualifications, we make the assumption that persistence would be tied to perceived job opportunities.

We know that occupations are influenced by the ups and downs of the economy. Some occupations are more sensitive to economic fluctuations than others. As a proxy of this sensitivity, we took the variance of sectorial unemployment rate relative to the overall unemployment level. We make the assumption that occupations that are less sensitive have lower unemployment rates in recessionary times than the aggregate unemployment rate. To gain employment in these types of occupations, it is relatively easy and there is less incentive to complete a certificate or diploma. On the other hand, if occupations have higher unemployment levels than the overall unemployment levels prevailing at recessionary times, holding a certificate or diploma would give an extra edge to find employment in these types of occupations.

In essence, **if it is relatively easy for students to find employment they are less likely to complete the program, other factors held constant.**

In recessionary times we have generally observed that more students are returning to post-secondary institutions. This trend has been reported in the media on various occasions. "Not only have many schools been overwhelmed with new students, but they are welcoming record numbers of returning students as well."[10]

"Administrative records show a significant rise in school, college and university enrolment (**and retention)** during the recent recession. With reduced or non-existent job opportunities, many job seekers are adopting various educational strategies to improve their employment strategies."[11]

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[10] The Globe and Mail, October 3, 1992, p. A1.

[11] Canadian Economic Observer, Statistics Canada - Cat. No. 11-010, October 1992.

We make the assumption that the reason for the decision to seek further education is the students' belief that this will give them a competitive edge in the job market. If this is indeed the motivation, it would therefore seem to be reasonable to assume that more students would make an attempt to complete their studies, especially in fields of high unemployment.

Are students more likely to persist in completing their certificates, diplomas or degrees when opportunities for employment are few or are they more likely to switch halfway through a program to get into a field that has more employment potential? These were the questions that were asked and for which we wanted to find some answers.

Employment fluctuates more for some industries than others. For example, employment in health, education and adminstration is more stable; fewer lay-offs as a direct result of a downturn in economic activities, since schools still need teachers and hospitals still need nurses and other health care professionals regardless of the economic conditions. Of course, these sectors are still affected indirectly by the economic activities since an erosion of the tax base generates fewer revenues, and hence, means cut-backs in spending. The effect of these cut-backs are felt now in the Saskatchewan economy. However, manufacturing, construction, mining and processing, new exploration or development are much more directly and immediately affected by a recession. When the demand for products is declining, as is the case in a recession, massive lay-offs in manufacturing plants are a common occurrence and the relative unemployment in these industries is well above the national overall averages at that time.

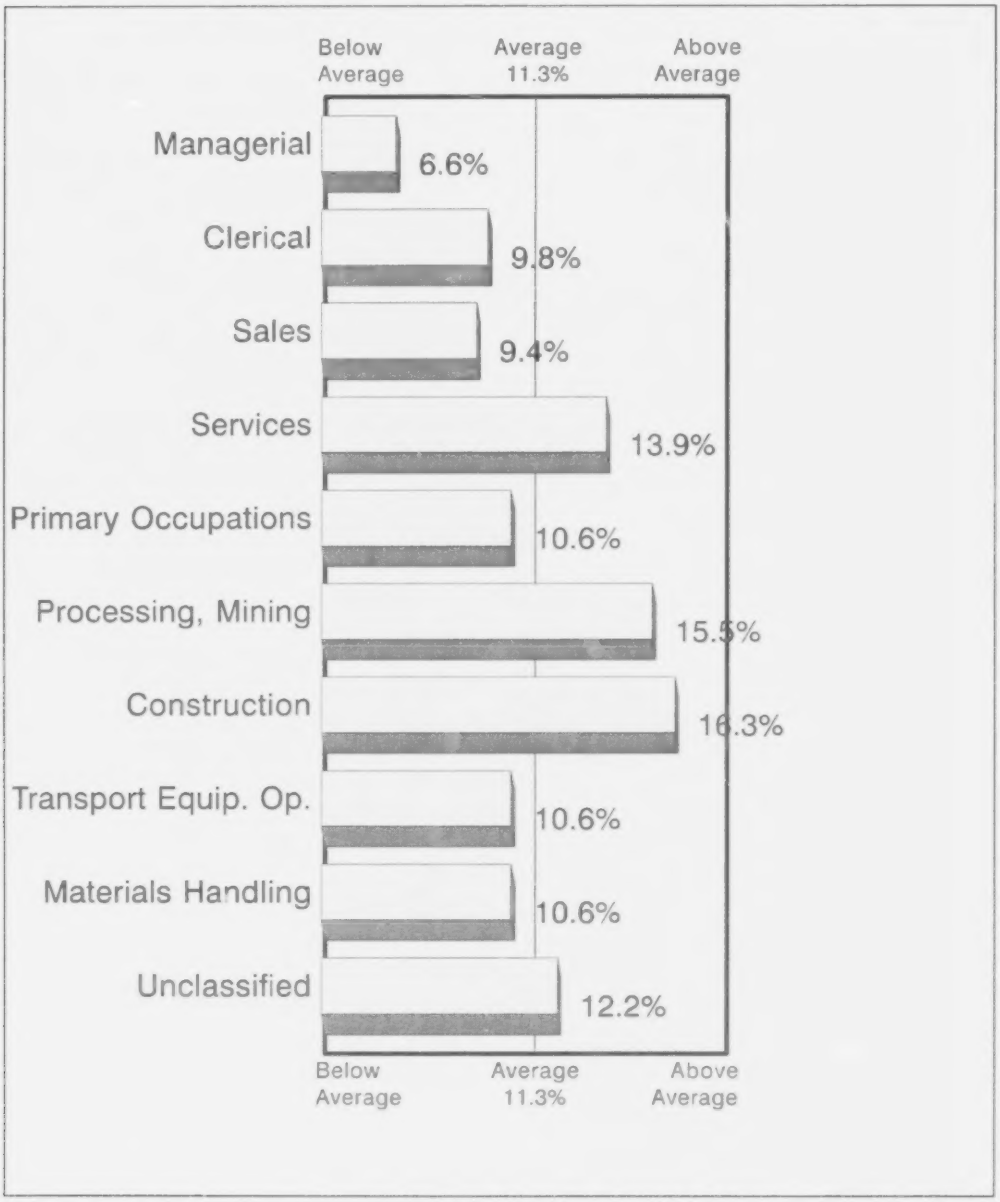
We set out to study relative unemployment rates for specific industries and occupations. Statistics Canada regularly produces unemployment data broken down by various demographic variables as well as by occupations and industries. In an article "Unemployment - Occupation Makes a Difference"[12] occupations are broken down into quartiles depending on their unemployment rates and these are tracked over time to see the rate of growth of employment in a recovery and decrease of employment in recessionary times. (For the breakdown of quartiles refer to Appendix 'D'.)

[12] Dave Gower, "Unemployment - Occupation Makes a Difference" Perspectives, Winter 1991, p. 14-21. Statistics Canada

4.4.1 Unemployment Rates by Occupations

The Statistics Canada office in Regina provided the following information from their database:

Figure 16 Estimates of Unemployment by Occupation, Canada, July, 1992



Saskatchewan Unemployment rates vary quite significantly from Canada's overall rates. We are not a manufacturing based economy and, therefore, our unemployment rates fluctuate less widely. In addition, Saskatchewan has experienced out-migration of its young unemployed people which understates the true unemployment rates. In August, 1992 unemployment in Canada climbed to 11.4 percent while it was 8 percent in Saskatchewan, with Regina at 8.3 percent and Saskatoon at 11.3 percent[13]. Therefore taking national unemployment rates was not a satisfactory measure of determining what employment opportunities exist for SIAST graduates, and we decided to compare attrition and completion rates to the success that SIAST graduates of the previous year had in terms of finding employment. We capture such information on a regular basis through our annual Graduate Employment Survey, which is conducted about six months after graduation. Total employment rates, as well as training related employment broken down by full- and part- time, are available. Graduates finding employment outside the province are included in these figures. The percentage of those that had to leave the province to find employment has dropped over the years (in tune with a general slow-down of the rate of out-migration).

Table 25
Percent of SIAST Graduates Who Found Employment Outside the Province
(based on the Graduate Employment Survey)

Year of Graduation	% Employment Outside the Province
1988	19%
1989	18%
1990	15%
1991	14%

We took the success rate of our graduates of finding employment as a proxy indicator of the relative competitiveness in the job market. When looked at in this way, we found some overall conclusions.

If it is was relatively easy to find employment (training related or non-training related), students were less likely to complete the program. If certification was a desired requirement for employment, students were more likely to persist in the program in order to get that competitive edge in the job market.

[13] Sask Trends Monitor, September, 1992.

4.4.2 Attrition Rates of SIAST Certificate/Diploma Students by Sector

Table 26
Attrition Rates of SIAST First Year Certificate/Diploma Student (1991-92)

	Completion Rate *	Attrition Rate	Attrition Rate (results of Part II of the Study)	Total Employed 1991 Graduates**	Total Unemployed 1991 Graduates**
All SIAST Totals (includes respondents from all programs surveyed)	60%	24%	15%	78%	13%
SIAST Business Group	46%	39%	23%	76%	17%
SIAST Health Group	76%	18%	7%	85%	12%
SIAST Industrial Group	63%	19%	12%	72%	24%
SIAST Technology Group	50%	24%	24%	80%	14%

* Based on data received from the Registrars.
** Source: Employment Statistics Report, 1991 Graduate Employment Survey, graduates. Includes full and part-time and training related as well as non-training related employment.

Note:

Completion rates plus attrition rates, based on data supplied by the Registrars, do not equal 100 percent. A number of students have not completed the first year of the program. They may have reduced the work load to part-time study or wish to take some time out (leave of absence); they have not stated that they have left the program or "dropped out". At Wascana and Woodland Institutes programs are offered in a competency-based delivery mode, which allows students to progress at their own speed, hence they may not have completed the program in one year.

Also employed and unemployed to not add up to 100 percent since some graduates are not in the labour force (category: unemployed, but not looking for work).

The sectors (eg. business, health, etc.) are composed of the same programs to calculate the attrition rates. They do not necessarily reflect all programs offered by SIAST in that area, only those for which we had sufficiently large response rates per program for Part II of the study were used.

The SIAST Study confirms the findings of other research in this area[14] that students who complete their program are more likely to respond to surveys and female students are more likely to respond to surveys.

Attrition rates are lower for the respondents of Part II of our study (more students had completed the program) compared to the rates calculated from Registrars' records. We also noted that response rates for Part I of the study were significantly higher for Wascana Institute where 68 percent of the students are female.

[14] Cheryl Farabaugh-Dorkins, "Beginning to Understand Why Older Students Drop Out of College: A Path Analytic Test of the Bean/Metzner Model of Non-traditional Student Attrition", The Association for Institutional Research, Number 39, Spring 1991.

We will now examine some of the sectors in detail to test our hypothesis.

Hypothesis: ***Unemployment rates in particular occupations are inversely related to attrition rates in programs preparing for this field.***

A. Health Sector (attrition rate 7 percent)

At first glance this sector does not support the hypothesis. Nursing and other health related occupations have traditionally had a low unemployment rate and low attrition rates. In 1990, when the overall unemployment rate was 8.4 percent (Statistics Canada, Winter 1991 Perspectives p. 15. Labour Force Survey) nursing had a 3.4 percent unemployment rate. However, these figures do not reflect the shift from full-time to part-time employment in the health sector. We have seen an erosion of full-time jobs for SIAST Diploma Nursing graduates over the past years, from a high of 79 percent full-time training related employment for Diploma Nursing graduates in 1987 to a **low of 19 percent full-time training related employment** for Diploma Nursing graduates in 1991 (Source: SIAST, Graduate Employment Survey). Therefore, a combined full-time and part-time employment of 80 percent as stated in the 1991 Graduate Employment Survey is very misleading of the true job opportunities.

Many occupations in the heath sector are highly regulated with associations licensing the practitioners. The completion of a certificate or diploma is thus a necessary prerequisite for being allowed to practice, hence students are more motivated to complete the program since this will significantly increase their probability to secure employment in a tight job market.

Since it is becoming more difficult to find jobs, students believe that they will gain an extra edge by completing their certificate or diploma, and hence they are more likely to persist in their studies. Attrition rates at SIAST for nursing students and other health related programs are below the average, and we find high completion rates (SIAST-wide) in the health field. The attrition rate for the total health sector is 10.3 percent; this includes the Health Record Technician certificate which has an attrition rate of 28.6 percent (similar to other programs in the business or office education area). If this program is excluded in the calculation, the attrition rate in the health sector drops to 7 percent.

B. Business Sector (attrition rate 23 percent)

Office Education students are not motivated to obtain a certificate or diploma in the same way as students in health related areas. Occupations are less regulated and employers generally place more emphasis on the demonstration of specific skills rather than a certificate or diploma. Hence, students place more emphasis on acquiring the necessary marketable skills rather than ensuring completion of a full certificate or diploma program. Also employment opportunities are not as specialized as for health workers. Many graduates (and indeed leavers of the program as well) find employment in non-training related jobs. In the health sector only 5 percent found employment in non-training related jobs and these are primarily at the assistant level (hence still related to some degree), compared to 12 percent of Office Education students who found jobs in other fields.

C. Industrial Sector (attrition rate 12 percent)

Attrition rates fall between those of the health sector and business education sector. Employment in training related plus non-training related jobs is relatively high (70 percent) with a 52 percent training related employment rate which is mostly full-time.

A specific example is the Graphic Arts program, which has a low completion rate and high employment levels. 75 percent of graduates found full-time training related employment and the other 25 percent did not actively look for work at the time of the survey (not in the labour force). **Overall, the less highly regulated the specific occupation is (by associations or apprenticeship boards) in an environment where alternate jobs (not necessarily training related) are easily available, students are less likely to complete their program to receive a certificate or diploma. In effect, when students have reached their goal (a certain minimum level in marketable skills) they become employable and often this is their own personal final goal, not the completion of the program in itself.**

D. Technology (attrition rate 24 percent)

Employment for technology students is high (80 percent total employment and 64 percent training related employment for 1991 graduates, again mainly full-time), yet attrition rates according to the results of our study were above SIAST overall rates.

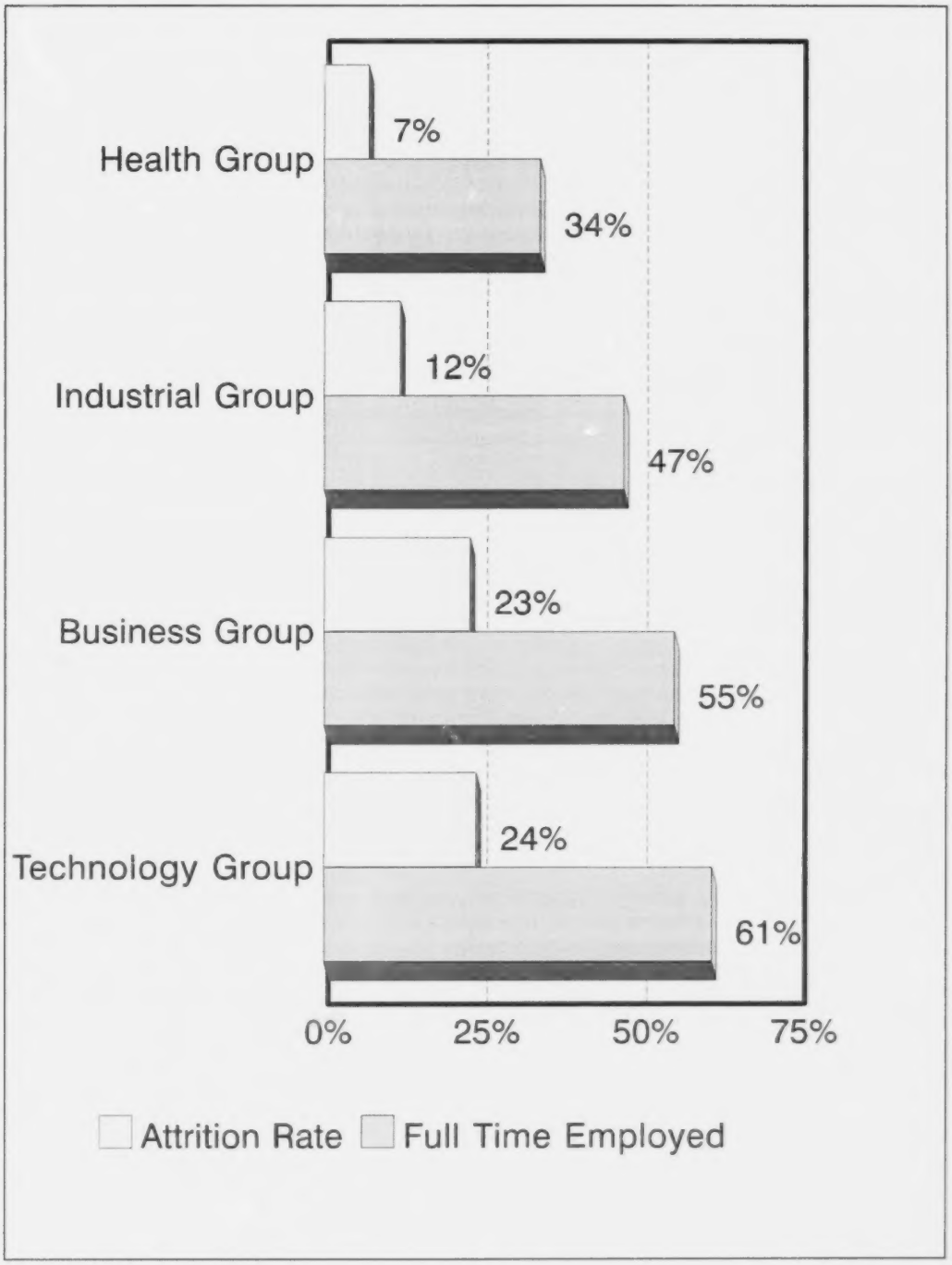
A particular example is the Water Resources program. Water Resources students have a high attrition rate (50 percent of the first year students according to the respondents of Part II of our study), yet the employment rate of graduates in the previous year was 100 percent in training related employment.

Although we could not prove our hypothesis (inverse relationship between attrition rates and unemployment rates) for all specific programs, this relationship does hold true for the broad sectors in general.

At the institutional level there is little we can do to control the fluctuations of economic activities, and hence the resulting changes in job opportunities. However, we can be more aware of these changes and how they affect attrition rates.

The graph on the following page illustrates the relationship between attrition rates and employment rates. Full-time employment of the June, 1991 SIAST graduates are compared to the attrition of the certificate/diploma students who had entered in September, 1991.

Figure 17 **Attrition Rates by Sectors**



5.0 Limitations

This study was not designed to give us exact statistics of what percentage of students persist or drop out in each program. This type of information should be available from statistical records based on the databases at each Registrar's office. The purpose of the study was to find out what factors affect retention. We were able to identify a number of these factors, but we did not conduct any statistical test to determine the degree of correlation for each factor, since the evidence seems to indicate that it is the sum of these factors rather than each individual factor that impact on retention. For example, just being female actually increases likelihood of retention (according to other studies), but the sum of being female, older, having dependent children, being native and/or disabled decreases the probability of completing the program significantly.

In order to fully understand the labour market impact on retention, a longitudinal study of comparing unemployment rates for different occupations over a number of years would need to be compared to attrition rates over the years. This information is not available. Some data has been collected, but it is not accurate enough to undertake meaningful statistical correlation tests.

6.0 Implications for Action

Students are more likely to persist in programs if they believe that this will give them a competitive edge in the job market. Providing information about job markets and realistic employment prospects must be an ongoing service to students, not only when they first start to think about furthering their education. Students may realize their short term goal of finding employment (without completing the program), but in the long term they benefit from completion by achieving increased marketability, increased flexibility, and an increased income potential throughout their working life. Career counselling should be increased.

Mentoring, peer-counselling and pairing students with employees in their chosen field for occasional contacts may be services that could be encouraged with beneficial results.

We have identified those students that are at higher risk of dropping out and we can now assist these groups with special programs and services.

Non-completers are generally older, female, and have dependent children. The added family responsibilities may mean that programs have to be more flexible to allow for completion at a slower pace over a longer period of time (encourage more part-time study).

Publicizing support services that are available and adapting them to ensure that they are accessible to the high-risk students (eg. provide child care services or flexible hours) may be necessary. It may be that services are geared to traditional-aged students and thus do not accommodate the needs of the older student population with family responsibilities.

Non-completers perceived that sessions to improve study skills, tutorial sessions and more instructor contact had a greater impact on the probability of completing the program. Such services should be offered on an ongoing basis and be readily available. The instructors' teaching load must of course be adjusted if they are expected to hold frequent office hours in addition to teaching.

For certain courses upgrading in specific areas (eg. science) may be necessary before students can take a full load of classes. This may involve suggesting to students to take standardized tests in certain core subjects to establish whether such academic upgrading is necessary in one or two subject areas.

Although other studies found that financial problems were generally not the reason why students drop out (costs and financial aid affect the initial decision to enter a program), we found this to be a major reason for non-completion in our study. Also non-completers are more frequently employed and work more hours in addition to studying. A reduction in the course load (part-time study) would ease the stress of studying and working at the same time.

Any retention program must be longitudinal in character and its success is tied to the implementation and management of such a program.

As we learn more about student persistence and the reasons why students drop out, we can become increasingly effective in dealing with particular reasons and particular subpopulations; however, we must keep in mind that dropout or persistence is to a large degree a reflection of the merits of the educational system in general and how well our institution fits into the overall system of higher education. Since much of the student dropout is actually student transfer among institutions, we also need to consider to what extent we should encourage such movement as a means of fine-tuning the system as a whole. Portability of credits for what has been learned between institutions must become more common place. This will require increased co-operation among the various educational institutions.

7.0 Conclusions

Student persistence is a function of many variables. The varied and changing composition of our student body means that as an institution we must be more aware of the subgroups of the student population most at risk of not completing their programs and provide interesting and flexible programming. If we make the assumption that completing a certificate or diploma brings benefits, such as increased employability and higher potential life time earnings, we have the responsibility to convey this to students and create an environment which is conducive to assist those most at risk. Support services must be accessible to these groups of students and programming itself must allow for greater flexibility. This may involve screening at the admission stage to ensure that students will be provided with the appropriate remedial help in deficient areas. It does <u>not</u> imply simply raising the entrance requirements. Counselling services are an integral part of this process. Increased awareness of market conditions will reduce unrealistic employment expectations and help students establish long term career goals. Education must not be seen as a quick fix, but it is an ongoing process with long term benefits.

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Appendix 'A'

Sectors

Business Sector

Business I (Palliser)
Business Administration: Manager and Accountant (Woodland)
Business Computer Programmer (Woodland)
Office Education (Wascana)
Office Education (Palliser)
Office Technology (Woodland)

Health Sector

Dental Assistant (Wascana)
Diploma Nursing I (Kelsey, Wascana)
Emergency Medical Technician (Wascana)
Nursing Assistant (Wascana)
Psychiatric Nursing (Wascana)

Technology Sector

Architectural Engineering (Palliser)
Civil Engineering (Palliser)
Computer Engineering (Palliser)
Computer Aided Drafting (Palliser)
Electrical Engineering (Palliser)
Electronics Engineering (Palliser)
Instrumentation Engineering (Palliser)
Surveying Engineering (Palliser)
Water Resources Engineering (Palliser)

Industrial Sector

Auto Body Repair (Kelsey, Palliser, Wascana)
Automotive Service Technician (Kelsey)
Building Construction (Palliser)
Building Systems Technician (Wascana)
Drafting Technician (Wascana)
Driver Training (Woodland)
Electrician: Pre-Apprenticeship (Palliser, Woodland)
Electronic Communications Technician (Wascana)
Electronics Service Technician (Palliser, Woodland)
Graphic Arts Production (Wascana)
Heavy Equipment Mechanic (Kelsey)
Heavy Equipment Operator (Woodland)
Industrial Mechanics (Kelsey)
Machine Shop (Kelsey)
Machine Shop Practice (Wascana)
Major Appliance Servicing (Wascana)
Masonry (Palliser)
MVMR (Palliser, Wascana)
Outdoor Power Equipment Technician (Woodland)
Parts Management Technician (Kelsey)
Power Engineering (Kelsey)
Professional Cooking (Palliser)
Refrigeration and Air Conditioning (Kelsey)
Truck & Transport Mechanical Repair (Woodland)
Welding (Kelsey, Palliser, Wascana, Woodland)

Appendix 'B'

Questionnaire - Part I

Questionnaire - Part II

Appendix 'C'

Response Summary by Program

Appendix 'D'

Annual Average Unemployment Rate (1989),
Occupations Ranked by Quartiles

Appendix 'E'

Comments